Gleanings in Bee Culture

Established 1873

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September, 1940

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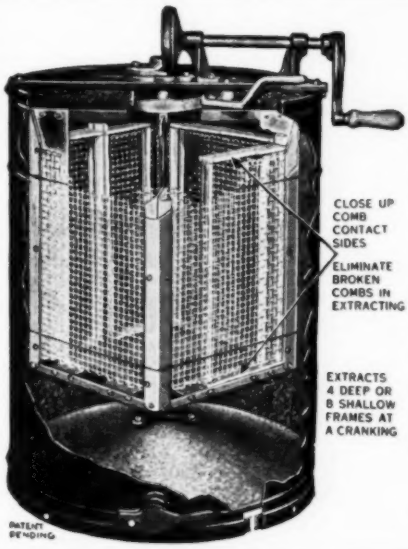
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The Monthly Honey Market

U. S. GOVERNMENT REPORT

Information from Producing Areas (last half of July).

California Points: Southern California.—Temperatures have been normal or slightly above. It has been generally clear, with some night and early morning fogs. Weather conditions have tended to lessen nectar secretion from buckwheat near the coast, but some honey has been secured for winter stores from sumac, which also yielded pollen heavily. Bees on the buckwheat ranges in the mountains have had little to work on and many colonies have been moved to cotton and other locations. A little nectar is being secured from alfalfa, mustard, sumac, doveweed and holly, but many colonies are not even making a living. Demand for honey has improved and the market on most types and grades is steady to firm. Eastern demand is reported better than during early July, but still below normal for this season of the year. Sales by beekeepers in ton lots or more at Southern California delivery points, per lb.: Orange, Water White 5-5⅛c, few 5¼c, Extra White 4¾-4⅞c, few 5c, White 4½-4⅝c, few 4¾c; Sage, Water White 5-5⅛c, few 5½c, Extra White 4¾-5c, White 4¼-4½c; Sage-Buckwheat, Extra Light Amber 4-4 1/6c, 1 car for later delivery $5.05 per case of 120 lbs.; Light Amber 3¾-3⅞c; Light Amber to Extra Light Amber Alfalfa, Blythe area, mostly $4.25 per case of 120 lbs. delivered Los Angeles, other sales $3.85-4.15, mostly $4.00-4.15 per case at country points. Beeswax has been in fairly good demand at slightly lower prices. Prevailing offers for good quality wax range mostly 19-20c per lb. delivered Los Angeles, darker wax mostly 18-19c per lb.

Imperial Valley.—Bees have gathered some pollen recently, but little or no honey. The Alfalfa crop is reported unusually short, ranging mostly 25-40 pounds per colony, occasionally up to 50 pounds. Sales reported Light Amber to Extra Light Amber Alfalfa at mostly $4.25-4.35 per case delivered Los Angeles, other sales $4.10-4.25, mostly $4.15-4.20 per case at country points.

Central California.—Temperatures have ranged from below normal around the middle of the month to about normal at the close. The return to warmer weather increased the flow from various nectar-producing plants, and the production of honey increased over much of the area. Bees are working actively on cotton and alfalfa, and prospects are for a good crop from these sources, with a flow that is steady but rather slow. The flow from buckwheat and spikeweed is about over, though some sections still report a spikeweed flow. Bees are also working on sweetclover, Ladino clover, sunflower, Jack clover, and various minor sources. Bluecurl plants are growing well. Reports from the Sierra Mountains indicate that honey production is increasing in that area. Most colonies are in fairly good condition at this time. The market for honey is rather quiet, with prices steady to slightly lower on most kinds of honey. Buying has not been active, however, as dealers generally were inclined to delay purchasing until the size of the crop is more definitely determined. However, many distress lots were being offered. Sales by beekeepers in ton lots or more, per lb. delivered Bay Cities—Sage, Extra White to Water White 5¼-5½c; Light Amber Mixed Flowers mostly 3½c; Extra Light Amber Buckwheat 4¼c; Light Amber Eucalyptus mostly 3c; delivered Interior Valley Points—Extra White Sage mostly 5c; Water White Orange mostly 5c; Light Amber Buckwheat 3-3½c, cans returned; Amber to Light Amber Spikeweed 2½c, cans returned.

Northern California.—Temperatures increased toward the close of the month, especially in the interior valleys, relieving beekeepers' anxiety caused by earlier cool weather. Morning fogs were general along the coast. Honey-producing plants reported in good condition, especially star thistle, which is reported to show the heaviest growth and widest distribution in many years. Bees reported working on thistles, with prospect of a heavy crop. The acreage of alfalfa is also rather widespread. Buying of honey has been light, with movement confined principally to Manzanita and Mixed Flowers. Considerable Honeydew also changed hands. Prices show little change. Sales by beekeepers in ton lots or more, per lb. delivered Bay Cities—Light Amber Mixed Flowers 3¼-3½c, Amber to Extra Light Amber Manzanita 3¼-3¾c; delivered Interior Valley Points—Mixed Flowers, Light Amber mostly 3c, Amber 2½c; Extra Light Amber Manzanita 3c; Amber Honeydew 2½-2¾c, few 2c.

The beeswax market has been quiet with little change in prices. Good yellow wax has brought beekeepers 18-21c per lb. delivered Bay Cities.

Pacific Northwest: West of Cascades.—The period has been moderately warm, with considerable cloudiness. Light to fairly heavy showers occurred in Northern Oregon and in the fireweed areas of Western Washington, greatly improving prospects for a good crop from fireweed. Beekeepers are much more optimistic about the prospect of a large Fireweed flow than they were two weeks ago and now advise that fireweed should continue yielding for several weeks more. Fireweed plants had about stopped growing and the bloom was reported short; but recent reports indicate a good yield in most fireweed sections, especially in the upper elevations. With the cessation of rainfall, ocean fogs covered the western coast range, and further aided the flow from fireweed. Recent reports indicate bees storing 7 to 8 pounds a day from fireweed during clear weather. The fireweed crop east of the Coast Range was not much benefitted by the showers. Bees are still gathering some nectar from thistle in the valleys, but generally pastures are brown. The Willamette Valley crop is reported the best in years. Beekeepers are selling White Fireweed at 5½-6c per lb., Light Amber 5c per lb. delivered Seattle; Fireweed mixed with Vine Maple 5c per lb. delivered Portland; Light Amber Clover-Vetch reported at 4¼c per lb. delivered Portland; small lot sales Fireweed, 60s 8½c per lb., small pails 7-9c per lb.; Light Amber 60s 7c, small pails 8c per lb.

East of Cascades.—Rainfall has not been general, and thunder storms have set hundreds of new fires through this area and in the States to the east. The honey flow has been better than beekeepers had thought possible considering the hot, dry weather and many beekeepers are looking for a crop from alfalfa and sweet clover that is normal or better. Bees are working on second and third cutting alfalfa. Irrigation water is much below normal, how-

ever, and additional rainfall would be helpful. Prospects in Central Oregon appear less promising than in most of the rest of this area. Honey is moving slowly. Old crop White Sweet clover-Alfalfa is being offered delivered Seattle at 5c for White, 4½c for darker grades. Occasional case lots Light Amber Alfalfa reported at 6c per lb.

SUMMARY—Over most of the country except portions of the Far West this entire period has been characterized by temperatures much above normal, with many areas reporting maximum temperatures of 100° or more, and often for several days at a time. The dry area has been extended as a result of lack of precipitation over much of the West, though rains have fallen in scattered areas in the eastern and central portions of the country. The hot, dry weather has sharply curtailed what appeared to be an excellent flow over much of the White Clover Belt and throughout the Plains Area and Intermountain Region. Late rains, on the other hand, have added to the prospective crop of Fireweed in the Pacific Northwest, and warmer weather has increased the nectar flow in Central and Northern California. Heavy rainfall in South Texas has brought on a flow in that section and a return to dry weather in Louisiana has started nectar flow again in that State. This season has seen one of the worst swarming episodes in many years, and although swarming is over in most sections it continues bad in the upper tier of States. Prospects for a fall flow are encouraging throughout much of the White Clover area following earlier heavy rainfall. The out-turn will be unusually spotted, depending upon the extent to which colonies were in shape for the beginning of the flow, as in many cases this was of brief duration, though heavy while it lasted. Extracting started later than usual because of the delayed season, but is now under way almost everywhere. Extracted honey so far taken off appears to be unusually light in color and of good body, and comb honey is said to have had an excellent finish. Little interest is reported in honey at this time and market levels show little change. Distress lots can be expected to provide sales at lower prices than usual, however, as new honey begins to come on the market. Comb honey will be scarce this year in most sections.

Monthly Report of Honey Producers

Early in August we sent the following questions to honey producers: 1. How does the honey flow (if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1940 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over? The answers received are tabulated as follows:

August date		1.	2.	3.		4.		5. To consumers.		6.	7. 1939
	State. Name.	Honey flow.	1940 crop.	Large lots. Ex.	Comb.	To grocers. Ex.	Comb.	Ex.	Comb.	Move-ment.	hold-over
16	B. C. (A. W. Finlay)	120	110	.09½		.60		.85		Fair	0
12	C-Calif. (Davis Bros.)	150	100	.04¼						Slow	0
11	SE-Colo. (Otis E. Adcock)	150	150			.42	3.25	.50	.18	Fair	25
7	E-Conn. (Allen Latham)	50	100			.75	4.75	1.00	.28	Fair	0
10	S-Fla. (C C. Cook)			.04		.35		.50		Slower	0
10	C-Fla. (Harry Hewitt)	50	65			.50		.65		Slow	0
8	SE-Ga. (J. J. Wilder)	120	110	.05½		.45		.55		Fair	0
12	NC-Ills. (A. L. Kildow)	110	125					.50			0
8	S-Ills. (Carl Killion)	100	120	.06	3.38	.48	3.68	.65	.20	Fair	0
12	NC-Ind. (T. C. Johnson)	125	100			.50	3.00	.60	.17	Fair	0
12	NW-Ind. (E. S. Miller)	80	80			.50	3.00	.65	.15	Slow	10
10	N-Me. (O. B. Griffin)	30	45						.28	Slow	0
14	S-Mich. (Floyd Markham)	66	75		2.75	.50	3.00	.75	.20	Fair	20
12	C-Mich. (E. D. Townsend)	60	70	.06						Slow	0
12	E-Minn. (Francis Jager)	110	80	.07							0
13	C-Neb. (J. H. Wagner)					.35	3.00	.41	.17	Slow	20
10	W-Nev. (Geo. G. Schweis)	50	50					.45		Slow	10
11	W-Nev. (Mrs. E. G. Norton)		90							Slow	80
14	W-N M. (C. A. Baltzley)	100	150	.06		.45	3.75	.53	.23	Fair	0
12	NW-N. Y (Geo. B. Howe)	100	100	.07	3.60	.50		.65	.20	Fair	
8	C-N.Y. (F. W. Lesser)	100	120	.07	3.00					Fair	0
8	E-N. D. (M. W. Cousineau)		50						.49		0
8	C-Ohio (R. D. Hiatt)	95	100		2.40*	.50	3.75	.60	.19	Fair	0
9	NC-Okla. (C. F. Stiles)	100	100			.45	3.60	.65	.18	Fair	0
11	SE-Penn. (D. C. Gilham)	25	75			.70	4.25	1.00	.25	Slow	20
12	W-S. C. (E. S. Prevost)	70	70			.60		.80		Fair	0
12	NE-S. D. (L. A. Syverud)	100	100			.35	3.00	.46	.17		0
13	SE-S. D. (J. F. Norgren)	75	80					.50		Fair	8
10	C-Tenn. (J. M. Buchanan)	50	75					.75	.20	Fair	0
12	E-Tenn. (W. L. Walling)	100	110					1.00		Fair	0
10	C-Texas (T. A. Bowden)	90	90			.45		.55		Slow	
9	S-Texas (J. N. Mayes)	2	3			.18		.20		Slow	5
11	S-Texas (H. B. Parks)	85	100			.45		.55		Fair	0
11	W-Vt. (Phillip Crane)	85	90				3.87	1.00	.28	Fair	0
17	S-Va. (T. C. Asher)	90	100			.45	3.50	.60	.18	Fair	0
7	N-W. Va. (W. C Griffith)	10	10					.50	.19	Slow	0
10	N-Wyo. (Earl C. Reed)	50	75	.05		.40		.45	.18	Slow	0

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2-lb. jars, per carton of 12	$ .55
1-lb. jars, per carton of 24	.80
½-lb. jars, per carton of 24	.65

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2½-lb. pails, per carton of 12	$ .60
5-lb. pails, per carton of 6	.42

F.O.B. Boyd, Wisconsin

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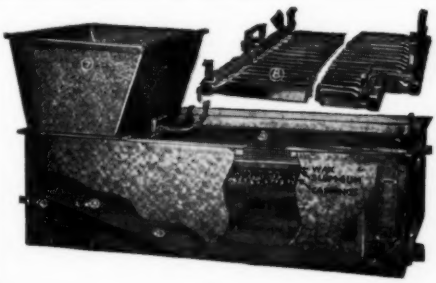

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Dadant & Sons, Hamilton, Illinois

Vol. 68
No. 9

Gleanings in Bee Culture

September
1940

Nephi E. Miller.

N. E. Miller, Pioneer Beekeeper of The West

By Dr. A. E. Fife

The name of N. E. Miller, who passed on recently, is so well known to Western beekeepers that there are few commercial honey producers west of the Mississippi who have not met him or who have not had dealings with him. Yet Mr. Miller's hatred of publicity, his personal modesty, and his undivided application to beekeeping deeds and not beekeeping words, deceived even his most intimate friends as to the surprising magnitude of his operations. Few beekeepers realized that N. E. Miller was the real father of extensive migratory beekeeping in the West, that he was probably the first beekeeper ever to have produced a million-pound crop of honey, and that his holdings, which comprised about 20,000 colonies at its greatest extent, constituted something like an all-time record in the annals of modern bee culture.

Failing health had forced N. E. Miller to retire from active honey production. The tremendous chain of apiaries which he built up, and which extended from Minnesota to California, are now operated by more than a dozen commercial honey producers, in addition to the five junior beekeepers of the Miller family. So in the present article the authors wish to tell the story of struggle and hard work, of tragedy and success, which constituted the romance of N. E. Miller's beekeeping career.

N. E. Miller, Farmer and Back-lot Beekeeper

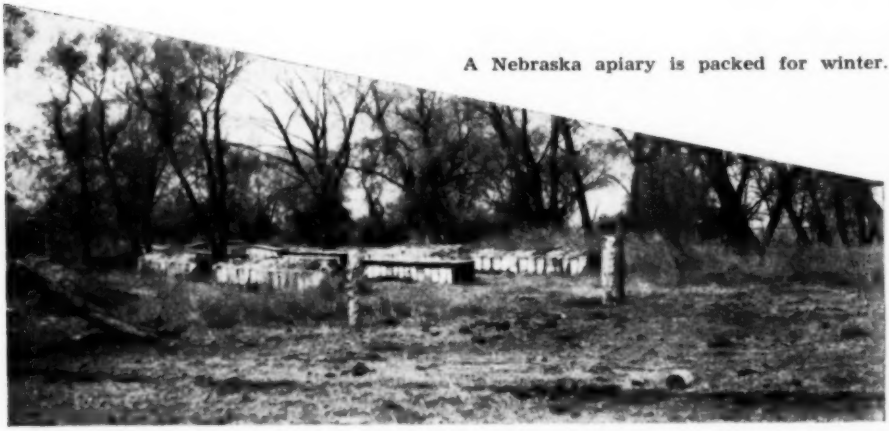
Way back in the eighteen sixties the parents of N. E. Miller, Mormon pioneers who had trudged across the plains to the Great Salt Lake Valley, traveled to northern Utah where they broke the ground of a small sage brush delta which they called Providence. There a thriving little Mormon community grew up and there, in 1873, Nephi E. Miller was born, the son of the village cobbler

Beekeeping on the scale in which it is carried on by Mr. Miller, whose apiaries until recently were located from Minnesota to southern California, entails the most varied types of problems. This apiary is shaded from the tropical sun of Blythe, California.

who also operated a small farm. After harvest time one autumn forty-six years ago Nephi and his father had five bags of oats which the son wanted to exchange for seven colonies of bees. Now, Nephi's father had purchased bees before and they had not proved successful as the necessary attention had not been given them. However, he agreed to his son's proposed trade when Nephi assured him that the bees would receive all the care they needed. It was this nucleus of seven colonies that Mr. Miller expanded into a chain of apiaries extending through six states and comprising about 20,000 colonies.

In earlier days this expansion took place slowly, and only as a growing hobby carried on along with the usual routine of work and chores on a small irrigated farm. He purchased a colony here and there, whenever one could be found, from farmers and neighbors, and whenever he could arrange to secure them at a reasonable price. He had very limited financial resources to use in purchasing additional bees, being the son of a pioneer and a member of a large family. He captured every swarm that came to his attention. The folks of the village would notify him whenever a swarm was seen in the air or hanging in a tree and he would hive it in any type of container that would serve as a shelter for the industrious insects.

After his marriage in 1896, Mrs. Miller contributed her part by helping hive swarms, even inducing them to settle with the time-worn practice of beating on kettles and tin pans.



A Nebraska apiary is packed for winter.

The Birth and Development of Extensive Migratory Beekeeping in the West

Until 1907 when N. E. Miller made his first trip to California, the extensive migratory beekeeping which is now characteristic of a large part of the beekeeping of the far West had not yet been conceived. All the bees in Nevada, Utah, and Idaho were wintered locally and heavy tolls in winter losses were taken as a matter of course. During his first California trip, the purpose of which was to study methods of rendering beeswax and preparing it for market, Mr. Miller conceived the idea of transporting bees from Utah to California at the end of the sweet clover and alfalfa honey flow so that they could winter in a more hospitable climate and take advantage of the orange blossoms of Southern California before being taken back to Utah in the late spring.

In December, 1907, he purchased 149 colonies of bees near New Hall, California, divided each colony in the spring, and then transported them to Logan, Utah, by railroad at an approximate cost of $440 for the carload. The rate for transporting bees so great a distance by railroad proved to be prohibitive, thus making profitable migratory beekeeping impossible. In earlier days his transportation problems, which were entirely local in scope, were limited to the repair or purchase of a wagon, the acquisition of a new team of horses, and so on. Now he had to take the bees by team and wagon from the apiary to the freight station, load the hives in the cars carefully providing for ample bracing and ventilation, take the bees through three or four states amidst the indifference, carelessness, or even downright maliciousness of railroad employees, and then take the bees once more by team and wagon from the railroad to their locations near the orange groves of Southern California. The labor, worry and expense of such an enterprise seemed prohibitive to almost everyone—and at times to Mr. Miller himself. But there was just enough good "Mormon" stubbornness and determination in Mr. Miller's character to carry an idea to its successful realization once he had launched upon it.

His first step was to secure a more reasonable rate for the shipment of bees. After consulting local freight agents without getting any action, he went to the offices of the Union Pacific Railroad in Los Angeles and conferred with the general freight agent and other officials of the company. After a certain amount of red tape and discussion a new rate was established which is still in effect. From that time until the motor truck and improved highways provided a still more economical method of long distance transportation of bees, all beekeepers who have operated on the migratory scale have profited by Mr. Miller's negotiations.

There were still greater problems which had to be met before bees could be transported economically and safely from the snow-covered mountains of Southern Idaho and Northern Utah to the orange groves of California. The choice of a suitable railroad car was a difficult one. Box cars, cattle cars, automobile cars, and even refrigerator cars were tried. Ventilation in the hives while in transport became a major problem. The covers were replaced by screens and the bottom entrances plugged up. Then the hives were loaded in rows with 2"x2" wood strips placed between them, thus enabling each hive to secure a sufficient amount of air. But frequently hives were not of uniform size and structure—a fact which caused great complications in the blocking and ventilating of the load. Bees frequently found holes and then escaped, much to the annoyance of the train crew who knew nothing about bees and who had nothing but fear and hatred for them. Later by the use of standardized equipment, which included

Just one of the many Miller apiaries.

XUM

the development of a cover and bottom board which were interchangeable by the removal of only three cleats, and by securing more cooperation from the train crews through complaints sent to higher officials, a technique of railroad transportation of bees was developed to a point where whole apiaries in the Rocky Mountains of Utah, Idaho, Nevada, Arizona and other states could be picked up, transported to the railroad cars, carried across the deserts of Utah and Nevada, through the Sierra Nevada Mountains, and across the tropical Mojave Desert to the orange groves of Southern California with little loss.

By 1919 automobiles and trucks were introduced in the honey production business of the Rocky Mountains and it slowly became evident that this method of transportation had innumerable advantages over both the railroad and the team and wagon. No more teams attacked by angry bees or terrified by whistling steam engines. No more long delays for loading and unloading in the freight yards nor stops in the midst of the Mojave Desert. No more suffocation due to insufficient ventilation. But the trucks had to be kept moving, for a break-down in mid-desert might mean the melting of combs and the suffocation of bees. This meant the very best of equipment and, as Mr. Miller used to say, "The best truck equipped in the best way is none too good". New trucks with new tires were the rule in the Miller apiaries. Auxiliary fuel tanks were installed on each hauling unit, thus eliminating any cause for stopping during the day, for it was discovered that constant movement was the best possible means of ventilation. At present the Millers boast of one hundred per cent efficiency in transporting bees.

The Millers use one of the most efficient and economical large-scale hauling units in the West. It is comprised of an International semi-trailer truck which carries 330 colonies and a one and a half ton Chevrolet truck which carries 180. Three drivers accompany the bees, one resting in the de luxe sleeper of the International while the other two drive. In this way the bees are moved the distance of nearly 600 miles from Colton, California, to Delta, Utah, in 20 hours. A similar hauling unit is used by the Millers to take increase in the form of full hives rather than packages from the California apiaries to Minnesota and Nebraska. On the return trip the Chevrolet truck is hauled on the trailer to cut down fuel costs.

N. E. Miller, Large-scale Honey Producer

The account which we have given of the development of extensive migratory beekeeping in the West must not make the readers assume that N. E. Miller's only significant contributions to modern beekeeping are in that field. There are other of his achievements which are equally worthy of our praise, and as yet unmentioned facts in the development of his vast beekeeping enterprise which may well serve as examples for other beekeepers. Let us remember that when N. E. Miller purchased a whole carload of honey containers for his 1915 crop he was the first inter-mountain honey producer to have ever required such a quantity of containers for one year's harvest. In the following three or four years the Miller apiaries were expanded at a too rapid pace which culminated in near ruin in 1918. Yet Mr. Miller was not completely discouraged. He reorganized his business on a smaller but more secure footing and, after paying off debts that had accrued during those lean years, he again began expanding his business until in 1926 he produced the first million-pound honey crop on record—a record which he repeated on several occasions since that time. In the following year, for example, he signed a contract for delivery of 17 carloads of honey to one Eastern firm and delivered every pound within scheduled time. By about 1935 the Miller apiaries had reached their maximum growth of more than 20,000 colonies which were located in Minnesota, Nebraska, Idaho, Utah, Nevada, and California. The Miller trucks plodded across all these states: hives to offset winter losses were trucked from Southern California to Nebraska and Minnesota, a distance of over 1700 miles. Thousands of colonies were taken yearly from Colton and surrounding localities in Southern California to Utah and Idaho, where they gathered a crop of water white clover and alfalfa honey, only to be retransported to the sunny orange groves of Riverside and San Bernardino Counties in California to spend an easy winter and to gather a crop of golden orange blossom honey

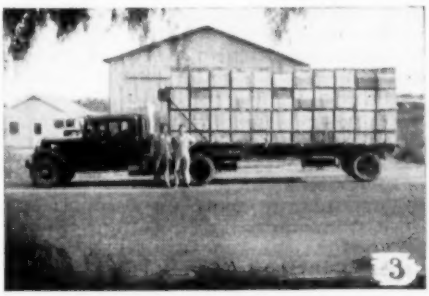
making once more their long journey to the alfalfa and sweet clover meadows of the Rockies. There were managers of chains of the Miller apiaries in every locality and Mr. Miller or his youngest son, Woodrow, circulated by automobile, by streamlined train, and by transcontinental airways, to coordinate and unify this gigantic chain of industrious men and equally industrious bees.

Mr. Miller a Man of Character

Finally, the present article would be incomplete if we failed to mention some of the personal traits of character which made N. E. Miller the universally esteemed beekeeper that he was. He was noted for the high salaries that he always paid his assistants whom he familiarly called "the boys" or "the men". He made an effort to have employees who were of clean habits like his own, but once a man was in his service Mr. Miller was prone to keep him on as long as there was any work for him to do. N. E. Miller was always opposed to driving sharp bargains. In times when he himself was heavily indebted he was the object of tolerant handling by his creditors; he remembered this kindness and made it his own practice with respect to the beekeepers who were indebted to him. This practice he carried out throughout his beekeeping career even when it was the source of financial loss to him. On one occasion, for example, when a mortgage company offered him at a bargain price a chain of apiaries on which they wished to foreclose, Mr. Miller made the acquaintance of the owner and was convinced that, given a chance, he might make good on his bees. He refused to buy and the indebted owner who was able to keep his bees ultimately made up his defi-

(Continued on page 593)

1 and 2. 36,000 pounds of Miller honey went to market on these two trucks.



3. One of the Miller trucks taking bees from Colton, California to Delta, Utah and back every year. 450 are taken each trip in two trucks.

4. The Millers find it necessary to practice every economy in order to produce honey on the migratory scale without spending all the profits on oil and gasoline. After two loads of bees have been taken from Colton, California, to Delta, Utah, a distance of about 500 miles, the large truck carries the small one back when both are ready for another trip.

5. Hives for increase being taken from Colton to the tropical apiaries at Blythe, California.

The Top Entrance in Use

By John Conner

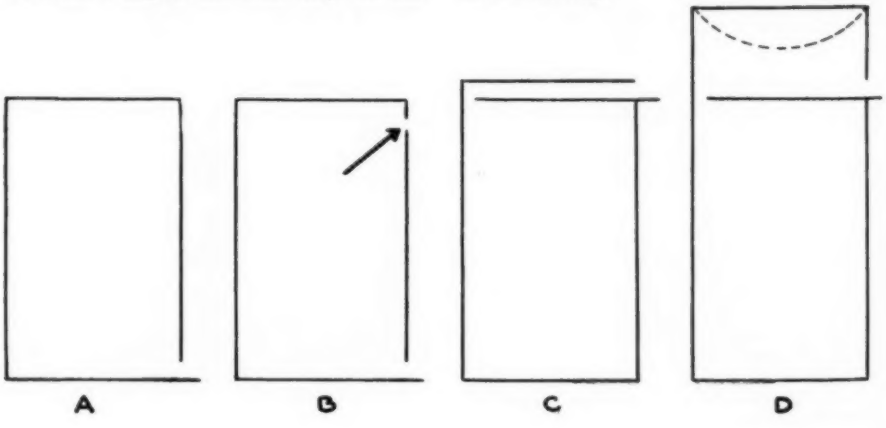
Presenting Some Thoughts to Ponder Over

Experiments with hives equipped with top entrances during the past few summers seem to indicate the possibility of this method of management opening up an entirely new field of thought with reference to honey production. It concerns the idea of producing bees in a greater amount than necessary for the immediate activities of the colony and storing, or rather allowing these bees to quietly store until the main flow comes. Such an idea as this is different and so unusual as to be immediately branded by many as fantastic, yet most beekeepers know and accept as true the fact that the length of a bee's life is in direct proportion to the amount of work it does. It is upon the practical application of this old thought that the above idea is based.

The principle of holding bees in reserve from, let us say, the early part of May until the middle of June is no more strange and unusual than in producing them in August and September and holding them in reserve for use the following March and April. In winter it is no trouble at all to store a large number of bees in a hive together with a sufficient quantity of food for their use, but during the late spring and early summer period the storing of a surplus quantity of bees becomes increasingly difficult as the construction of our hives will not allow it without congestion. The key to this accomplishment is simply to provide some suitable chamber where bees can cluster (when there is no work to be done) and where this clustering of bees will in no way add to the congestion of the brood-nest or restrict its ventilation. The desirability of this procedure will be especially apparent to those with a late June or July flow and where early increase in colony strength brings with it the swarming problem.

Top Entrance Hive Defined

Before proceeding it is well that some form of definition be established in order that a complete understanding be maintained. Accordingly the use of the word "top-entrance" in this article will refer to a bee hive having a completely closed bottom and where the sole and only entrance for both flight and ventilation is maintained at the top, directly under the cover. It may be further stated that this definition has generally become accepted not only by universal use during the past 15 or 20 years by those few experimenting in this direction, but also because a patent (No. 1,816,631) was granted to one device of this type carrying this title. Many styles, shapes, and sizes, have been made. Each person experimenting has, to a large degree, taken the fundamental idea that the top-entrance principle is based upon and interpreted it to the best of his ability.



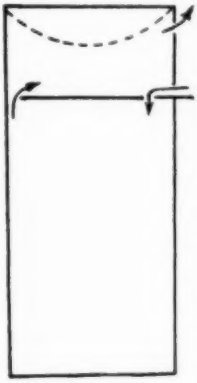
Fundamentals of such a top entrance are clearly shown in figures "C" and "D".

Care must be used to distinguish between this and another practice in beekeeping that has at times been classed as top entrance also. I refer now in particular to a small flight or ventilation hole often drilled in the front part of hives usually part way down from the top. These are simply holes, nothing more, and are used in winter to allow moisture to escape and to provide an emergency flight hole when and if the regular bottom entrance becomes closed either with dead bees or by snow. Such an arrangement has been in use for many years and that it is of some very definite value is attested by its rather wide use over a long period. Indeed that it and other expedients have been necessary gives ample proof that the regular bottom entrance has failed to do its job properly. With the advent of the top-entrance principle of natural hive ventilation without draft the term has been from time to time loosely applied to the extra upper flight hole also. Before the popularity of the term "top-entrance" this upper hole was spoken of as a vent hole or as "upward ventilation". Figure "B" clearly illustrates the big difference between this and the true top entrance.

Another point with reference to the drawings herewith shown: These are purposely made simple so that certain basic principles can more easily be kept in mind. Such drawings are of no immediate benefit to the large number who want detailed plans of construction, but on the other hand they are of decided value to those experimenters with a creative mind. For the present time, at least, it is considered inadvisable to broadcast detailed plans until a generally approved set can be given out. Now to get back to the subject.

A Clustering Place Furnished

If we refer again to figure "D" we find the requirements for summer use to be a greater capacity both in ventilation and traffic, plus a clustering place or lobby in which bees can hang on "off" days. In the winter top entrance illustrated at "C" it will be noted that the opening down to the frames is at the extreme rear. This is to permit the construction of a long low convection duct or tunnel. Such an arrangement is an ideal type of heat exchanger. Both the incoming and outgoing air has to pass through it and when properly proportioned, it supplies the cluster in winter with sufficient air, removes excess moisture and conserves heat entirely without effort of the bees and without draft. For summer the conservation of heat is no longer desirable so the low narrow duct can be eliminated. The opening to the frames below needs no longer to be at the rear only and an additional opening near the front may be given. At the same time the desirability of also increasing the height and width to provide a clustering place has already been determined to be an advantage by previous trial and error. Figure "E" shows these changes in somewhat more detail. Here in effect we have a box, dimensions of which are the same as the size of the hive that it fits and about six inches deep. In its floor are two openings to the frames below and at its front are two other openings, one at the alighting board, the other above. The area of these openings is each somewhat in excess of that usually supplied by the present bottom opening. Here is a device designed for summer use. It permits fresh dry air to enter and immediately drop to any part of the hive interior and the lighter, moisture-laden air to rise and leave by a different path. This is an entirely natural process and when the bees use their wings to increase its velocity they are helped by working with rather than against a natural force. The arrows indicate the path of air currents.



E

Such a device is intended to be used as follows: The colony is rearranged by placing the brood nest at the top with supers below and the bottom tightly closed. This latter can be effectively done by placing the inner cover below making sure the rim side is uppermost and the escape hole is closed. The top entrance is put on the colony thus arranged and usually the regular cover fits over all. A little consideration of the matter will reveal that these few

changes have created the following conditions:

1. Natural ventilation.
2. Greater capacity of air per minute.
3. A place for idle bees to rest and cluster without interfering with ventilation, traffic or brood-nest.

With the exception of the first of these three conditions it shows why simply inverting a bottom-board over a colony fails to give the best results.

Brood on Top, Honey Below

The actions of the bees under these conditions are not strange or unusual. They still, as always, prefer to have their brood-nest near and to store their honey away from the entrance. In almost all cases the queen never lays in any but the top set of combs, with brood and pollen predominating and honey being noticeably absent here. Storage of honey is below the brood-nest and as the crop comes in the direction of storage is always progressively downward. Such an arrangement is ideal from the labor standpoint as several supers can be given early. If nectar comes in they are filled and if no flow is experienced the combs below are not harmed.

As the season progresses the cluster of bees in the entrance lobby grows larger, and other factors of good beekeeping being present, there is also a noticeable lack of the swarming impulse. Even if no supers have been given, or if those given are full the swarming desire is still not manifested. The population within the hive proper seems always about the same and is apparently only enough to do whatever work is required at the time, the surplus bees clustering above. As many as four to six pounds or more of bees at times form this cluster indicating that there might be very close relationships between the lack of swarming fever and the size of the clustered bees, and between the size of the cluster and the usual size of swarms.

In this article no reason for this clustering is given, the facts are simply reported as they exist. That they do cluster when there is no flow or when no supers are provided is soon apparent and it is also apparent that when space is present and a flow starts these bees can and do go to work. Regardless of what may be the cause of this action the results certainly are pleasing. The future is destined to bring forth a greater development on this phase of beekeeping.

Experimenting with the top entrance has demonstrated the value of a bee clustering place in a hive. This does not imply, however, that such a space could not well be incorporated in a regular bottom entrance with advantage. To do this would be returning again to Dr. Miller because it was exactly this that he used and recommended. It seems that as this old beekeeping world goes round and round in its orbit it comes back again and again to Dr. Miller. Each time it is more apparent that he knew his bees far better than most of us will ever realize. It may be that the top-entrance, which Dr. Miller first introduced to America, is to be the means of bringing to fruition a practice that he suggested but was unsuccessful in introducing to heedless beekeepers.

What do you think?

Caldwell, N. J.

Mr. Carl Erikson, of Nora Springs, Iowa, who owns and operates this fine-looking apiary of 75 colonies, is also janitor of a high school. In 1939 he extracted 8000 pounds of honey from this yard.

The Bee of Mystery

By Annie D. Betts
Editor of "The Bee World"

Under this title in March Gleanings Mr. Allen Latham discusses the nature of the worker bee and the queen. Regarding the queen as the primitive female bee, he finds the worker a "bee of mystery", and is puzzled to account for her many organs and instincts not possessed by either of her parents.

I have the most profound respect for Mr. Latham's abilities and knowledge as a beekeeper and queen breeder, and venture to differ from him with some diffidence. It seems, however, that the mystery is due to the question having been, as it were, stood upon its head; so that he is trying to account for bee evolution in the opposite direction to that which it has actually followed. In plain English, I believe that the worker is but little different from the original female bee; while the queen has gained a little, and lost a great deal, in the course of the many ages during which honeybees have existed.

Consider what the original female bee had to do. She was able to mate and lay eggs—naturally; but she cannot possibly have laid 1000 eggs a day, or anything near it, for she had to feed all the resulting grubs herself, perhaps with help from sisters or daughters, themselves also egg-layers and therefore by no means free to give all their time to nursing her offspring. She cannot have laid, in the earliest ages of bee history, many more eggs than an efficient laying worker now achieves. In other words, she was just a laying worker—with the additional power of mating and producing female offspring as a regular habit.

Feeding her own larvae did not, however, take up all her time. She had also to clean the nest, build comb, cap cells, collect pollen and nectar and store it—and, if an enemy approached, attack and drive it off. She must therefore have had legs and jaws and other "tools" much like the modern worker's, wax glands in working order, the habit of foraging, and a sting that she could use as a weapon without losing it or suffering injury. It is only in the last matter that she resembled the modern queen more closely than the modern worker; though doubtless her legs, jaws, wax glands, honey sac, and the instincts urging her to use them, were less well developed than they are in worker bees today.

The modern queen has lost nearly all these things. She has kept (and developed to a higher pitch) the instinct to mate, the power of laying numbers of fertilized eggs, a non-detachable sting, and her mandibular glands—these last being important for emerging quickly and tearing down the cells of younger sisters. She may have acquired, as something new, her strong jealousy of other queens—though workers perhaps show a trace of it when they ball a strange queen or forswear their allegiance to their mother and start a queen cell at swarming time. It may be remarked that workers are especially inclined to do these things when they are in the laying condition—for example, as the result of having been queenless for some time.

The queen's shorter development time—16 days instead of 21—is also modern, I feel sure; so that in this respect also the original female bee was much more of a worker than a queen. The devil—in the shape of a jealous elder sister—has always taken the hindmost for millenia! The queen that can emerge first and destroy her sisters in their cells, or meet them when they are newly-emerged and she has had time to harden up, will naturally be the one whose offspring will people the earth. Her enormous mandibular glands have been developed, it seems, for the same purpose.

The modern worker, in company with her like, can live and function without a queen—and may even, as we all know only too well, resent the attempt to provide her colony with one. The modern queen is helpless without workers. She needs nurses for her enormous daily tale of offspring, many bees to feed her so that she may lay the eggs that produce them, and probably some 40 times as much attention as a worker while she is a larva—if we may judge by the weight of food in her cell. She is, in fact, very far removed from the primitive female bee, and is— as has been well said of her—little

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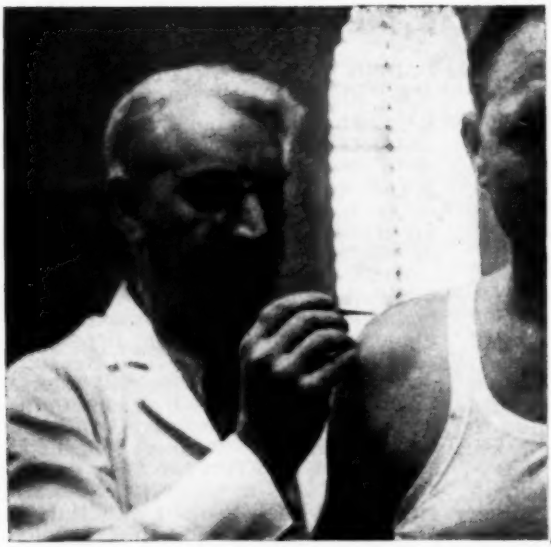

The Bee Sting Cure

By E. R. Root

On pages 492 to 495, August Gleanings for 1938, I had something to say about bee stings and bee venom for the cure and alleviation of certain distressing conditions that afflict the human family; of how more and more of the medical fraternity was taking up this treatment in various parts of the United States and of Europe. Some of these cures, as I have seen with my own eyes, are remarkable if not miraculous. I have seen men, and women too, who according to their own testimony were doubled up with swollen joints who were entirely cured without a recurring twinge of their old trouble. Seeing is believing, if one can believe his own eyes and ears. Of course, not all who take the bee stings are cured or even relieved, especially in cases of those whose joints have been distorted or deformed for many years.

According to the American Bee Journal, Dr. Irving S. Cutter of Chicago, who has followed the lead of Dr. Bodog F. Beck of New York City, reports 17% as permanently cured, 38% as moderately relieved.

Only last spring I heard of the remarkable cures performed by Dr. R. L. Carey, one of Dr. Beck's pupils, of Los Angeles, Calif.

I called at his office on 649 South Olive Street, and found several patients undergoing treatment, some taking only two or three stings and some as high as forty at one time.

Did they flinch when the stings were applied? Oh yes, but they were very willing to take the sharp pain in exchange for the continuous gnawing pain of many months.

The photographs here shown were some I snapped in Dr. Carey's office while he was at work. Note in one of the smaller pictures his case of bees which have a flight entrance to the great outdoors. With a pair of long forceps Dr. Carey picks up a bee from the case, then applies it to the part of the body affected, as here shown. The stings are left in for the space of several minutes when they are removed. The reason for this is so the poison sac of the sting can discharge its entire contents into the flesh.

If the patient is a new one he is given only one or two stings on the first application. Later on more stings are applied. The number of visits and the number of stings are increased until results are secured.

In some cases as many as 75 stings are given in one treatment. One would think that such a dose of venom would cause coma or death. This does not occur if the number of stings has been increased gradually so that the system can acquire immunity. When so large a number are received at one visit it needs a trained physician to watch the heart action.

When I called at Dr. Carey's office he was glad to see me just at that time because in his office were patients who had come in for final treatment and he wished me to ask them questions. This I did and the replies were most favorable and convincing.

One man who came into the office while I was there had convulsive jerking of the head and neck that was most painful to witness. At times the jerking was violent. The man removed his shirt and bared the back of his neck. As sure as I sit here writing, I could see at each application of one sting, a slowing down of the painful head jerking. At the end of about four stings the action slowed down until it stopped, "What a relief", he said, "and now I can try my case", for he was a corporation lawyer of some note.

The jerking of the head and neck was due to a nerve trouble, said Dr. Carey. The application of the stings seemed to go direct to the spot and stimulated the blood circulation.

This is likewise the effect in the sting treatment in cases of arthritis and rheumatism.

In Germany and Europe a bee venom is made from bee stings, but, say Dr. Beck and Dr. Carey, this is by no means as effective as the fresh venom applied by the bees own hypodermic needle.

Both Dr. Beck and Dr. Carey strongly advise against beekeepers or anyone else than a doctor applying this remedy. It is too dangerous.

A Thousand Stings at One Treatment

In this case I'd like to tell a story the facts of which were given me by my brother-in-law, L. W. Boyden of Alhambra, Calif.

It was while he had a series of bee yards in old Mexico just across the line where there was good bee pasturage. Said Mr. Boyden, "The Mexicans for some reason believe in the bee sting cure for rheumatism. One day a Mexican, a business man, all doubled up with rheumatism came to one of my yards and asked to have a lot of bees to sting his arm. He directed that a bunch of bees be spread all over a towel and to wind the same tightly around the arm, bees next to the flesh." Mr. Boyden protested saying that so many stings all at one time would kill him. "No", said the Mexican, "I have tried this before with no bad result; but this time I want more bees because I know the stings will cure."

"The towel with the bees", continued Mr. Boyden, "was wrapped around the arm and then the towel was slapped until every bee had done its work. He came back for another treatment for there was no swelling and no result as a cure."

Finally, he came back and asked that several towels all covered with bees be wrapped around each of his arms and legs and again around his body. This was done when Mr. Boyden was not present or he would, he said, have forbidden his men from going so far.

This time results came quickly and severely. The man went into a coma for his body this time was swollen all over. It seemed that he would die but he lived and the cure was complete. He is a well man today.

The incident is not here given with the thought of greatly increasing the number of stings if the cure is not effected.

The regular physician who applies this treatment would go at it more gradually, covering a period of days.

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Tutti Frutti Cake.

Photo by courtesy of California Dried Fruit Research Institute.

Dried Fruits in Review

By Mrs. Benj. Nielsen

Too early to begin using dried fruits, you say? Dried fruits and honey have most wrongly been classified as food to be used during the winter, or the cooler months only. Happily food fashions change. Even had I subscribed to the old-line school of thinking, the arrival at my desk of a particular recipe booklet would surely have started my conversion to an all-season consumer. This excellent booklet titled "100 Selected Dried Fruit Recipes" contains the finest collection of dried fruit recipes it has been my good fortune to find. So far as is known, it is the first all-dried-fruit recipe book to be issued. Scattered through its pages I found ten excellent honey recipes. Three of the nine beautiful photographs illustrating this booklet are of honey goodies. They are reproduced in Gleanings to tantalize you just as they did me. I could not wait to try them out in the Nielsen kitchen!

The beekeeping industry should be deeply grateful for the honey recipes included in this fine selection. These recipes, in fact, all of the recipes included in this booklet were originated and displayed in the California Dried Fruit Research Institute Creative Kitchen, at the Golden Gate International Exposition, on Treasure Island. More than a hundred thousand homemakers selected the recipes for presentation in this booklet. Furthermore, these recipes have been tested and approved by the Good Housekeeping Institute. No doubt these booklets have had wide distribution, entering many thousands of homes.

Everyone knows how much more delicious, wholesome and satisfying is the fruit which is tree-ripened. Scanning the facts regarding the nutritive value of dried fruits I found these interesting lines: "The actual concentration which takes place in the drying process is responsible for developing the higher nutritive values of dried fruits. Because they are destined to be converted into a sun-reduced concentrate of their fresh state, fruits intended for drying must ripen and reach complete maturity on the tree or vine. This obviously results in all of the nutritive elements reaching their maximum. Heavy with natural sugars developed to their highest point—sometimes as much as 30 per cent more than fruit from the same tree or vine harvested for other purposes—the entire dried fruit family is famed as an economical source of quickly assimilable food-energy. These sugars, known as monosaccharides, are in the form in which they are utilized by the body; that is, no digestive change is necessary for their assimilation." Reads almost like a honey fact story, doesn't it? These two easily assimilated health foods, dried fruits and honey, make a super combination every good cook will welcome in her search for variety in meal planning.

If you are a bit skeptical about the advisability of using dried fruits when fresh ones are available consider these lines from the thoroughly interesting and informative "Story of Dried Fruits" found in the booklet: "The trend of consumption of dried fruits in the past few years has been definitely upward, especially in the summer months, because consumers have come to know that dried fruit and canned or fresh fruit are not competitive. They have come to know that in the dried fruit there

are flavors and nutritive values which do not exist in fruit in either its fresh or canned form, and consequently consume them all through the year. These flavors and values are not entirely due to the evaporation of water, but to the transmutation of the various elements of the fruit, to form new values, new flavors, new deliciousness."

After reading about the many nutritive values of these luscious dried fruits one concludes it is good sense, as well as good economy, to include them frequently in our menus. You will be delighted with the festive appearance and rich flavor of these easy-to-make recipes. Individual copies of this booklet are available, free of charge, as long as they last, by addressing the Creative Kitchen of the Dried Fruit Research Institute, Golden Gate International Exposition, Treasure Island, California.

No longer is it necessary to soak dried fruits overnight. We like to follow the directions specified in this book (I'm not going to tell you here because I want you to know the joy and satisfaction of possessing and using this book.) Then we sweeten our cooked fruits with honey instead of sugar specified in their directions. As a rule we use a little less honey than the amount of sugar specified, as honey is sweeter, you know. Such superb flavor cannot be adequately described—it must be sampled! Many of the fine recipes contained in this booklet can be easily changed to use honey in place of sugar. And it's fun to experiment!

Here are some of the honey recipes—I'm going to include the realistic descriptions accompanying each. I hope they will make you as hungry as they did me and that you will use them over and over again.

Prune Bran Flake Muffins

"Prune Muffins make an ideal foundation for those wholesome two-fruit breakfasts. Prunes have an enhanced fruit flavor when incorporated in tender muffin batter. Their natural laxative quality is never lost in baking processes."

One cup cooked prunes, 2½ cups sifted all-purpose flour, 4 tablespoons sugar, 6 teaspoons baking powder, ¾ teaspoon salt, 6 tablespoons shortening, 2 cups bran flakes, 2 eggs, 1 cup milk, 4 to 5 cooked prunes and honey for glaze.

Slice one cup prunes. Sift together flour, sugar, baking powder and salt, and work in shortening. Add bran flakes and blend. Add combined beaten eggs and milk, and mix. Add prunes and blend. Fill greased muffin pans about three-fourths full. Quarter remaining prunes; press a quarter lightly into top of each muffin. Bake in hot oven, 450 degrees F., 20 to 25 minutes. Brush with honey for last 5 minutes' baking. Makes about 18 medium-sized muffins. Honey may be substituted for the sugar in this recipe, in which case it is beaten into the eggs.

Raisin Honey Pound Cake

"A cake of pound-cake quality, rich and golden, though less liberal in egg and butter content than standard pound cakes. Sweetening consists solely of honey and raisins. You'll need brakes to stop eating it."

One cup raisins, 1 cup butter, 1 cup honey, 4 eggs, 3 cups sifted all-purpose flour, 3 teaspoons baking powder, ½ teaspoon salt, 1 teaspoon vanilla extract, 1 teaspoon lemon extract, and ¾ cup chopped walnut meats.

Rinse raisins, drain, dry on a towel, and slice or chop fine. Cream butter, add honey and cream thoroughly. Add beaten eggs and blend. Add flour sifted with baking powder and salt, and beat. Add flavoring, raisins and nuts, and stir to blend. Pour into wax paper-lined loaf pan (about 5½x10x3"). Bake in slow oven, 300 degrees F., about 2 hours, or until cake tests done.

Tutti Frutti Cake

"A quick-action cake that takes less than the usual time to prepare and has a marvelous flavor to reward your efforts. It has a special attribute in its readiness for immediate eating, although it keeps as well as

Prune Bran Flake Muffins.
Photo by courtesy of California Dried Fruit Research Institute.

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Filled Cookies.
Photo by courtesy of California Dried Fruit Research Institute.

any fruit cake, if desired. The relatively large proportion of prunes and raisins in comparison to that of candied peels and cherries gives this recipe a reputation as a budget-minded fruit cake."

One cup cooked prunes, 1¾ cups seedless raisins, ½ cup sliced citron, ½ cup sliced preserved lemon peel, ¾ cup sliced preserved orange peel, ½ cup sliced candied cherries, 1 teaspoon mace, ½ teaspoon cloves, ½ teaspoon allspice, 2 teaspoons cinnamon, 1 cup prune juice, ½ cup apricot nectar or orange juice, 1 cup honey, 1 cup shortening, 1 cup sugar, 4 eggs, 1 teaspoon brandy or vanilla extract, 1 cup broken walnut meats, 5 cups sifted all-purpose flour, 1½ teaspoons salt and 1¼ teaspoons soda.

Remove pits from prunes and cut into small pieces. Rinse and drain raisins. Combine fruits and peels with spices, cover with fruit liquids and honey, blend well, and let stand overnight. Cream shortening with sugar, add well-beaten eggs and flavoring, and combine with fruit mixture and nuts. Add flour sifted with salt and soda, and blend thoroughly. Pour into greased paper-lined tube pan (about 10x4"). Bake in slow oven, 300 degrees F., 3 to 3¼ hours. Before removing from oven, test with cake tester or pick for doneness. Makes about 5 lbs. baked.

Filled Cookies

Dough: One cup butter, 2 cups sugar, 4 eggs, 2 teaspoons vanilla extract, 4 cups sifted all-purpose flour, 5 teaspoons baking powder, and ½ teaspoon salt. (One cup honey may be substituted for part of sugar and flour increased if necessary.)

Cream butter, add sugar, and cream thoroughly. Add beaten eggs and flavoring, and mix. Add flour sifted with baking powder and salt, and mix thoroughly. Divide into portions of convenient size to handle, lift to floured board, work in enough flour to make rolling easy, and roll out thin. Cut into desired shapes. Place half of cut forms on ungreased cookie sheets, about 1½" apart. Spread with filling. Cut small circles from remaining forms. Place corresponding forms on top of filling. Press edges together. Brush with honey. Bake in moderately hot oven, 400 degrees F., from 12 to 15 minutes. Makes about 4½ dozen medium-sized cookies.

Raisin Filling

One and ½ cups raisins, 1½ cups chopped citron, 1 cup chopped nut meats, ¼ cup butter, ¾ cup honey, 1 teaspoon cinnamon, ½ teaspoon cloves and 4 tablespoons of brandy or fruit juice.

Rinse raisins, drain and chop. Combine with citron and nuts. Cream butter, honey and spices; add brandy, blend, and add to raisin-nut mixture.

Mixed Fruit Cookie Squares

One cup dried figs, 1 cup raisins, 1 cup cooked prunes, 1 cup butter, 1 cup sugar, ½ cup honey, 2 eggs, 3 to 3½ cups sifted all-purpose flour, ½ teaspoon salt, 1 teaspoon soda, ½ cup cut preserved orange peel, ½ cup cut preserved lemon peel, 2 teaspoons vanilla extract, and ½ cup finely chopped nut meats.

Boil figs 10 minutes in water to cover; drain, clip stems and cut into small pieces. Rinse raisins and drain. If seeded raisins are used, chop or slice in two. Pit prunes and slice fine. Cream butter, add sugar, and cream thoroughly. Add honey and beaten eggs, and beat. Add flour sifted with salt and soda, and mix. Add fruits, peels and flavoring, and stir to blend. Pour into two greased shallow pans (about 13½x9¾"); sprinkle with nuts. Bake in moderate oven, 375 degrees F., 15 to 20 minutes. Cut into squares.

Raisin Pie Supreme

"Another pastry prize that will sharpen your appreciation of why raisin pies are universal and perennial favorites. Raisins are blended in a judiciously juicy filling, piquantly flavored with orange and sweetened with honey."

One cup orange juice, 1 tablespoon lemon juice, ⅔ cup cold water, ½ cup honey, ¼ teaspoon salt, grated rind of ½ orange, 3 tablespoons cornstarch, 1⅔ cups raisins, 1 table-

(Continued on page 598)

From the Field of Experience

EARLY VS. LATE PACKAGES

By R. E. Newell

Readers of Gleanings are undoubtedly interested in the results of the experiment of hiving packages of bees early to see if it was possible to build them up to equal over-wintered colonies. Two-pound packages were used throughout the experiment. Two packages were hived March 15, and two more April 2 in double-walled hives on frames of honey and some small amount of pollen. On April 8 eleven more two-pound packages were hived on five frames of drawn combs and the other five, frames of comb foundation. Some sugar was fed the first four packages in addition to the sealed honey, while the last eleven were fed regularly until May 1. Queens in all the above packages were liberated by feeding the bees with sugar syrup until they would take no more, dousing the queen and bees with syrup and removing the wire from the cage and allowing her to walk in among the bees. All queens were accepted. Three queens of the last lot arrived dead and were replaced by the shipper.

Editor M. J. Deyell wrote me, when I proposed to make this experiment, that he believed the queens would likely prove of poor quality when raised so early in the spring and this might mean the failure of the experiment. Mr. Deyell was right in his opinion that the queens would not be of the usual quality. Nearly half of these packages have superseded their queens, and some of the first virgins to hatch swarmed out.

The two first packages raised between three and four combs each of brood during the last two weeks of March and the first week in April, then the weather turned cold and all brood-rearing stopped. On inspection the latter part of April these two packages were no stronger than when they were hived, if anything, slightly weaker. Two frames of sealed brood were taken from strong over-wintered colonies to give them a boost. They built up rapidly then and were equal to perhaps five-pound packages by fruit bloom time.

The two packages hived April 2 started raising brood normally, and the cold spell in April reduced brood-rearing to the minimum. These were slightly stronger the last of April than the two hived March 15 but these also were given two frames each of sealed brood, and were fairly strong in bees by May 15.

The eleven packages hived April 8 appeared to develop faster than those in the two previous lots. Those that arrived with queens in good condition raised brood steadily, reducing brood-rearing slightly during the cold spell the latter part of April. Some of these packages required no extra brood to bring them up to the equal of the packages hived earlier. The three that arrived queenless were each given two frames of sealed brood the latter part of April, and two of the others were also given brood from strong over-wintered colonies, so that at the time of fruit bloom all were about equal.

We had a very cold spring season with natural pollen coming in very late and there were very few good days in April and early May. Fruit bloom was very late and there was a week of rain during the height of the blooming period. Consequently the bees had two or three days to work the fruit bloom, then it rained nearly a week with perhaps another two or three days of fair weather before the petals fell. Therefore, the crop of fruit bloom honey was less than a super (shallow) for the very strongest colonies, and the package colonies stored not more than five or ten pounds each and some used it up entirely in the brood chambers.

Following fruit bloom, supersedure started in earnest. The queens were not clipped because of lack of time, and my desire to give them as little disturbance as possible, and two of the first virgins to hatch swarmed out with most of the bees, and fortunately were hived. Four others superseded but did not swarm out, but these were not noticed in time to requeen, and the lapse of time in brood-rearing left them very weak. The balance of the package colonies have retained their queens to date (written June 27, 1940), and have stored as much honey as the weaker over-wintered colonies which was less than half of a shallow super June 15, largely wild cherry

honey. Strong over-wintered colonies in the same yard have two supers (shallow) and are working the third.

In past years I have had my best results from packages hived about April 15, both two and three pound packages. I would say that during a season like the present one, May 1 would have been about right to receive the bees. I had five three-pound packages arrive May 25 this season. One queen arrived dead and one so weak that I made up two six-pound packages and one three-pound from the five packages. These were hived on foundation, a frame of brood being given to each to start them off. The two six pound packages are working in the supers, and the three-pound package is almost ready for a super. While May 25 is much too late to be practical, a large package can build up very rapidly with very little feeding and care, if secured at a time when pollen and nectar are both available.

Due to the fact that the South was unusually cold this past winter and spring, I may have secured lower quality queens than I would in a normal spring. We also had a subnormal spring, which prevented the packages from making the progress they should have made. Therefore, with conditions beyond our control, it would appear advisable and much safer to have the bees arrive April 15 or slightly later on a season like the present.

Framingham Center, Mass.

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KEEP BEES, KEEP BEES

By Dr. Bodog F. Beck

The American Baptist Church reports that B. C. Case, the farmer-preacher of Burma, a province of British India, took with him four hives of Italian bees from England. He presented them to the Pyiumana Agricultural School. The missionary hopes to develop a new industry for those who own little land and endeavors to aid christian villages to a more abundant life. This is one of his contributions to his other efforts of church support.

This is not new. An old French Bishop, paying his annual visit to his clergy, was very much affected by the indigence of one of the parishes. He deplored the poverty of the families and the sad condition of their homes. Before His Eminence visited the house of the Curate, who lived among these poor parishioners, the Bishop feared that the cure would be in a still more woeful plight. Contrary to his expectation, he found that everything about the house wore the aspect of comfort and plenty. He was amazed and asked the minister, "How is this, my friend, that you are the only one hereabouts with a cheerful face and affluence. Have you some independent means beside the meager income you receive from your congregation?" The clergyman answered, "Yes, your Excellency, I have; my family would starve on the pittance I receive from these poor people. Come to my garden and I will show you the capital which yields me accrued interest." He took the Bishop to his garden and pointed out the numerous beehives, "There is my bank; from it I draw my dividends which never stop." After that memorable visit, if anyone of his Clergy complained of poverty, the Bishop would say, "Keep Bees, Keep Bees!"

New York City.

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A YOUNG HONEY SALESMAN

By Benj. Nielsen

With school dismissed for the summer months our son Bob, aged 13, found time hanging heavily on his hands. An allowance, odd jobs now and then, would not furnish the spending money to satisfy his ambitious wants. So, we offered him a job selling honey on a commission basis.

Game to try his hand at it, he started canvassing the town on foot, taking pints, quarts, and a pail or two, packed in a small box. In a pocket he carried a small sample jar of honey to show prospects, letting them sample the honey if they wished and as a clinching tactic if making a sale seemed doubtful.

Bob was so pleased and enthused over his first few days profits that he fixed up a second-hand bicycle. In the basket carrier it was possible to take a larger load and cover ground more quickly. This improvement was too slow when he wanted to branch out and sell in the country. A bicycle trailer seemed the solution. With a load hitched onto his bicycle and armed with a good lunch, he was off on a day's selling spree.

This trailer had to be as light as possible, yet sturdy enough to stand up well. With this idea in mind 5-ply board was used for the bottom and ends and ½" material for the sides.

Below: All set to go.

Right: Bob shows a honey sample to a prospect.

The corner reinforcements were cut and bent to shape from an old radiator shell, obtained at a nominal cost at a junkyard. These were attached with nickel plated screws making strong and good-looking reinforcements. The box was assembled with long screws, so it is sturdy and won't rattle to pieces on the road.

This honey carrier has springs to cushion the bumps, too. They work well and are easy to make. Valve springs, which are obtainable at any junkyard were used. It was necessary to cut them off to the proper length. The axle is an ordinary ½" rod.

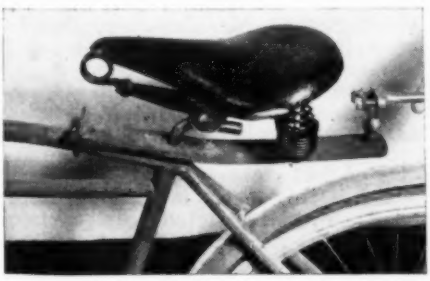
Small air-tire wheels were purchased from a mail-order house. These tires combined with the springs carry the load without appreciable jarring. As an added precaution, we use corrugated cardboard on the bottom and to wrap around glass containers. Due to the ball-bearing wheels and rubber tires the load pulls easily.

The tongue and hitch were made from the steering rod of an old Model-T. It was necessary to have a blacksmith lengthen the rod somewhat, then bend it to the shape shown. The rod is bolted to a metal plate, which is then bolted to the box.

The hitch attachment made from strap iron was also the work of a blacksmith. The ball-socket joint makes a flexible hitch.

Aluminum paint was applied to the box and the hitch and wheels were painted red. In combination with the red and white bicycle, this makes a neat and unusual outfit, which attracts plenty of attention and creates a good impression, both

Showing ball and socket hitch for bike trailer.



The rod is bolted to a metal plate which is then bolted to the box.

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of which are prime requisites in this business of selling honey.

We have always maintained that only a high quality product should be offered consumers; it should be clean, clear and packaged in attractive, scrupulously clean containers. Bob has had this belief verified repeatedly in his travels. Reporting after a day's work, soon after he started to sell honey, Bob exclaimed, "Gee, Mom, Dad seems to have a reputation for good honey. Mrs. Huffman said she didn't need to look or taste it, if it was Nielsen's honey she knew it was good!"

We believe that starting young folks out this way gives them a real interest in the honey business and a world of valuable experience in meeting and dealing with all types of people. If no member of the immediate family is available, no doubt many a teen-age boy could be found, who would be pleased at the prospect of hauling such an outfit, with the opportunity of earning some ready cash.

Aurora, Nebraska.

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A TRAGEDY FROM THE SKY

By Fred A. Amster

Let us grasp a theoretical situation and suppose that our little bee friends issued a daily news sheet. During the latter part of August, in 1939, you would have gazed upon a glaring news banner which would have startled you. It read: "Killer Stalks from the Sky!"

This is a formidable sound to the European population but sounds out of place in the U. S. A. It sounds like an air raid in the land of the free and the home of the brave. The admonishment is startling as we read the headline with grave excitement. It was true . . . but what could it have been?

The writer, as lone observer, noticed this occurrence which would warrant the headline referred to above.

Customarily, as most amateur beekeepers, the writer watches the toiling bee on occasions. The hobby furnishes the author with many hours of pleasant observations during the summer period.

On one particular morning, at about 5:30 A. M., in the latter part of July, the author observed a small bee-like creature hovering about the entrance to one of the hives. Our curiosity was aroused at once, so we watched the antics with a great deal of interest. We surmised robbing of some sort, or some other type of mischief. We watched the insect for some time as it weaved back and forth before the entrance to the hive. It appeared again and again eyeing some object at the entrance of this hive which bragged a full compliment of guards and workers.

With the startling speed of lightning from a clear sky, the insect streaked toward a lone, startled bee in the corner of the entrance, and pounced upon it. This observer was as surprised as the little bee. The attack was a complete surprise to us both in its viciousness and speed.

The struggle was of short duration, perhaps sixty or seventy seconds at the most. The adversaries tumbled about the entrance to the hive, a second or so, and then rolled into the grass below.

The struggle ended soon; after a few, short spasmodic kicks the bee succumbed and the small insect alighted upon a blade of grass to rest a few seconds. Observing the bee was dead, the attacker returned to its victim and commenced to gnaw on the hulk. Grasping the bee at the base of the body it commenced chewing off the head. After severing this head, it flew away with the choice tid-bit in great haste.

The author waited for the returning insect in vain for it never returned for the remaining portion of the carcass.

About six days later the writer observed the same occurrence and he endeavored to capture the killer without success. About two weeks later the author's small son informed him that he had seen a similar insect upon an apple core thrown near the hive.

After these observations the writer's curiosity had reached the peak as reference books did not deal with this information. On August 4, the writer communicated with Mr. M. J. Deyell, of Gleanings in Bee Culture. On August 11, Mr. Deyell replied to the writer's inquiry, quoting in part: ". . . . we suggest you send a description of this insect to G. J. Abrams, College Park, Maryland. Mr. Abrams is bee inspector for that state . . . . . he is familiar with the insects of that state . . . . . we are wondering if this insect is common over the State or restricted to a certain area. . . . . we hope it is not gaining in numbers, so as to become a serious

problem in connection with beekeeping" . . . . .

On August 14, the writer addressed a letter to Professor Abrams, of the University of Maryland, for further information and he replied in part: ". . . . . it obviously belongs to a small group of bees which feed on flies . . . I wonder if you can capture one of these little fellows and send it up to College Park?"

The author complied with the request and watched the hive day after day. On the first day of October, at an early period of the day he observed another attack on the hive and captured one of the insects by placing a jar over the bug. He sent this to Mr. Abrams, for identification and on September 22, 1939, this writer received a reply from this Specialist in Apiculture.

Mr. Abrams identified the insect as a small hornet common in this section: he identified it as the *Vespa germanica*. He informed the writer that this was the first time that he learned this insect attacks bees.

The mysterious "bee killer", has been identified and that is headline news. If you as an apiarist, observe a small hornet stalking about the entrance of a hive, keep an eye on him. This *Vespa germanica* has killed about four or five bees in the author's hive in a month. As a constant observation is impossible, he does not know how many more the killer got. Your observation may help to fathom this killer and the authorities may be able to ascertain the number he actually kills in a season.

This summer the author will endeavor to obtain a motion picture of an attack if possible and will inform this journal of any success in the undertaking.

Mt. Rainier, Md.

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A FREAK IN BEE BEHAVIOR

By Claude R. Kellogg

Department of Biology, Tukien Christian University, Foochow, China.

Although often accused of biting into fruits or of injuring flowers, honeybees are inherently honest as anyone who has studied and watched them well knows. When complaints of such misdeeds of bees are carefully investigated it has been found that the bees in question had only been taking advantage of the actions of some other agent,—sipping juice from a fruit that had been torn by a wasp or taking nectar from the punctured nectaries of a plundered flower into which a bumblebee had previously broken. Honeybees themselves do not make the opening into the fruit or tear the flower to get at the nectar but they are sometimes willing to profit by the depredations of others.

This may explain the queer actions of a honeybee once encountered by the writer. One day, while carefully watching individual bees as they worked on nasturtium flowers, one of the bees, instead of visiting the open flowers and entering the corolla for pollen or nectar as the other bees were doing, was seen to fly from flower to flower, hovering a moment before the spur as though examining it and then flying on to the next flower. In this way it visited twelve or thirteen flower spurs obtaining, of course, neither pollen nor nectar from its fruitless search.

What is the explanation for such behavior? It is quite probable that this bee had previously found a nasturtium flower with its spur torn accidentally or through the rudeness of a bumble bee, thus exposing the nectar, and, remembering that experience, it was flying about looking for another broken spur, forgetful of the more honorable way in which all self-respecting bees secure their loads of pollen or nectar.

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SECOND GLANCES

C. M. Isaacson

G. A. Pauli deserves a word of praise for the fine cover pictures he has been furnishing for Gleanings of late. They add no little to its appearance and are exceptional examples of photography.

The opening article (page 481) should be given careful attention by all beekeepers. It is further proof of Dr. Miller's "breed from the best" motif, and the statistics given are striking—in the 8-fold increase of the poor colonies requeened from the good stock. Until we know vastly more about the factors influencing the heredity of the honeybee, it is the only reasonably sure way of improving the **average** quality of our stock. (An occasional excellent supersedure from a poor queen may happen to confound us, but it is not the general rule).

The possibility of general warehousing of honey as discussed by Wendall Shore (page 484) is a topic of interest to most beekeepers. His

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point that financial support must be furnished for many producers is a true one. If a warehousing plan could be worked out in each locality of intensive beekeeping, without involving too much expense, it would do a lot towards preventing much of the "dumping" of lots of honey and consequent bad influence on the general market.

Nearly every beekeeper finds a sort of fascination in an account of bee-tree hunting (page 486). The honey may be little in amount and sometimes not anything extra in quality, but somehow that "wild honey" will be worth all the work of obtaining it. Possibly it is because of the "something for nothing" impulse that most of us have.

It is interesting to read that the alfalfa plant is rich in vitamins (page 487). Other honey plants may be likewise, and, as Dr. Beck suggests, the fact the results of search for vitamins in honey have mostly been negative up to now, does not necessarily mean that some forms are not present. As a "natural" food it would be strange if some types are not eventually found to be contained in it.

The continuation of the July article on moth pests may be somewhat technical to some but will certainly be of interest to those with scientific leanings. It clearly differentiates between the harmful and harmless species as regards the damage done to honeybee combs. (page 488)

Mrs. Nielsen continues her canning article (page 494) and includes a wise precaution when she recommends a large utensil for use when honey is to be heated. Most of us have seen the foaming she mentions, and can testify to her mention of the speed with which it happens.

Many of Gleanings readers will recognize the name of Sardar Singh; who, the article "Beekeeping in India" tells, is now in charge of the beekeeping project in the Punjab. American beekeepers will wish him success, and likewise for the progress of all beekeeping in India.

Complete eradication is a fallacy with most pests, as Mr. Bohne says (page 498), but control measures must be taken for the, at least, partial help they give. Certain pests do not disappear by themselves, as witness the Colorado potato beetle, but care must be taken that the remedy does not cause more harm than the pest.

John Conner's article on Kingbirds (page 501) is an interesting defense of a deserving bird. The eastern kingbird is very numerous around my locality and I have yet to see any spending much time, if any, near the apiary.

The percentage of success in queen mating is uniformly high, and if "*Tyrannus*" does get a few drones and workers he is welcome to them.

To the hints given by the Editor as to diagnosing a honey-flow, I wish to add one from my experiences. Listen a few moments as you near the apiary; if a heavy flow is on, the air will be "filled" with a high pitched droning or roar. If the flow is light or absent the droning will either be light or not at all. My own apiary is located about an eighth of a mile from the house, and for several years I have been able to tell the exact day the main flow commenced in earnest.

"If you want to keep selling them you must keep telling them" (page 516). That is a good motto to follow, and we must also remember that if we want the American Honey Institute to support honey, we must support the Institute.

That is good advice given in the Talks to Beekeepers (page 521) as to management of the food chambers. Where the fall flow is light or absent (and especially with Italian bees) the upper story will contain too little honey for safety in wintering, if the queen is not excluded from it the last part of the main flow. Caucasians are a little more prone to put honey in the brood chamber, but even here, it is often wise to confine the queen below.

Middle River, Minnesota.

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FAIR-EST EXHIBIT

By C. M. Littlejohn

Fair-est of all exhibits at the Fair is the Honey Show, for the groupment of amber delights shine in splendor at the Western Washington Fair of Puyallup, Wash., each September. At many other fall fairs throughout the nation they emphasize prowess of the honeybees above agricultural products and stock-raising.

It may well be said that:

"Honey makes a festival of Fall
When its display fills the agricultural hall."

While honey at some fairs may fail to score because of its lack-luster

(Continued on page 595)

Editorials

Our next issue will be a special number on wintering. Some of the apparent conflicts of opinion and practice will be explained. There are some fundamental facts that have been heretofore overlooked but which will be brought to the front. The habits of bees and the facts of nature do not change.

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Alfalfa Changes Beekeeping Picture During the past decade alfalfa has been gradually creeping Eastward. It used to be said that alfalfa yielded nectar only west of the Mississippi River in the irrigated region, also in one or two restricted regions of the East. It is now known positively that surplus honey is stored from alfalfa in Michigan, Ohio, Indiana, and some of the other states east of the Mississippi.

It would seem that alfalfa must become acclimated to a region before it will yield nectar to any extent. More honey is stored from this source during dry seasons than during wet seasons. Alfalfa is a deep-rooted plant uneffected by ordinary drouths.

Alfalfa prolongs the white honey flow in late summer. It enables colonies to stock their brood chambers well for winter, because the flow is not rapid, but steady.

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This Year's Honey Crop and Will the War Affect Prices It is difficult, even at this date to get an estimate of what the honey crop has been for this season, and much more difficult yet to forecast prices in the face of shortage of food and possible famine in Europe.

In the clover belt there has been a bumper crop in some localities and a light to a fair one in others. Were it not for heavy winter and spring losses of from 50 to 60% the aggregate yield of honey in cases or car lots might be the greatest in twenty-five years. As it is, it is a guess, and only a guess that the honey crop will not be above average.

No one knows what is going to happen in Europe or whether Uncle Sam will get involved.

In either case, it is a question whether food can go from the United States to England or Central Europe. If England controls the seas we can not send food-stuffs to either of the belligerents on account of the blockade.

Well then, of course, if our possible surplus of honey can not go to Europe or England, we shall have to expand our market here. How shall we do it? By advertising. The cheapest and most effective medium is the American Honey Institute.

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The Rumpus Over the White Fringed Beetle Mr. George W. Bohne of Luling, La., sends us a number of clippings referring to the work of eradicating the white fringed beetle mentioned on page 369 of our June issue and again on page 499 of our August number. It appears that the danger of poisoned milk as a result of airplane dusting to destroy the white fringed beetle has been greatly exaggerated; that there is no conclusive evidence to show that milk has been poisoned. "Any animal", says Mr. Bohne, "which would get enough poison to effect its milk would die before milking time".

State Entomologist W. E. Anderson, when asked about objections of beekeepers, is reported to have said, "We expect beekeepers to lose their bees. We are sorry but that is all we can say". "Last year", he added, "we paid the beekeepers over $31,000 for the bees they lost and advised them that this program would have to be continued in the interest of agriculture".

Gleanings has been informed that beekeepers are notified through their state bee inspectors when and where the state intends to dust or spray so that they can move their bees in time.

So far as we can learn, this spraying or dusting from airplanes to eradicate the white fringed beetle is a red hot question in and about New Orleans and the beekeepers are divided; but State Entomologist Anderson and Government officials propose to do their duty in eradicating this greatest of all insect pests—the white fringed beetle. Beekeepers should move their bees from the infested territory.

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Populous Colonies Needed for Maximum Crop Beekeepers all over the North report a considerable variation in colony strength this season. Some colonies have supers piled high while others have few, if any supers.

This variation is due to the fact that there were quite a number of weak colonies this past spring. The weather during most of the spring was cool and decidedly unfavorable for normal colony development. Furthermore, it was difficult, due to backward weather in the South to secure package bees in time to strengthen weak colonies.

Beekeepers must not lose sight of the fact that packages, used for strengthening weak colonies or starting new colonies should be installed early, at least six or seven weeks prior to the beginning of the major flow. For example, it takes three weeks for young bees to begin emerging from the first cycle of brood layed by the queen. Two more weeks are required before those young bees are old enough to become fielders, making five weeks in all after the package is installed, before the bees from the queen in the package are old enough to gather nectar.

It is not only important to have a populous colony but that colony must have a goodly percentage of adult bees of the honey gathering age, in order to secure maximum results in surplus honey.

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"No See 'Em Disease" or What is Scientifically Called Nosema The cause is said to be due to an intestinal parasite which it is believed the bees pick up from stagnant waters.

It was formerly called "Disappearing Disease". The bees disappear and then the disease disappears. Apparently when all the sick or distressed bees disappear from the hive the young bees from the brood appear to be healthy and the colony will gradually recover with no recurrence next season.

This only goes to show that the "No see 'em" name is not so bad. Now you see 'em (the bees) and now you "no see 'em".

Not a few cases of this malady or disease has been reported this season. When colonies in the spring or early summer do not seem to pick up like the rest, look for distressed bees with disjointed wings running like mad in front of the entrance and at some distance from the hive or even the apiary.

Remedy: Remove the colony from the apiary and be sure to have a supply of fresh clear water handy. A good way is to let water drip slowly from the hose valve on the house onto a plate of clean gravel on which bees can alight for water on hot days.

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Sending Packages with no Certificate of Inspection Inspector Reese, of Ohio, reports not a few cases of AFB from package bees this season. It would appear that some shippers are or have been shipping bees from infected colonies. It is certain some shippers have been sending packages without a slip or tag showing that the apiary from which the bees come have been inspected.

Either there is no state foulbrood law or no bee inspector for the territory.

Purchasers of package bees should buy only from states having such inspection laws and further should accept no packages unless accompanied by a certificate showing that the apiary from which bees are shipped has been duly inspected and found to be free from disease.

All this raises the question whether the time has not come to urge the enactment of a National foulbrood law to prevent the interstate shipment of package bees unless accompanied by a certificate of inspection from a state bee inspector.

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Top Supering Some have felt that the practice of top supering would let swarms get away. No, not if the honey flow is strong enough. When bees are real busy bringing in honey and ripening it they are not inclined to swarm. At such times top supering is a great saving of time and back-breaking lifting. If it is at the beginning of the season, or when the flow is light, or intermittent, bees are inclined to build cells and swarm unless the cells are killed or the colony is Demareed. This means rearranging the brood nest, sometimes putting the added super under one partly filled. But after the flow is on strong, put all supers on top. It is apparent that in top supering beekeepers have to be governed by conditions.

Not Always Safe to be Lured by Low Prices

It appears that whether intentionally or otherwise some breeders have been advertising queens at very low prices but have sent out queens before they began to lay eggs with the possible hope that they would lay on arrival. At all events we have been having complaints of drone-laying queens. Where queens were sent with packages of bees the customer lost both the packages and the queens.

If we can prove intention to send out queens before evidence of laying is received, we shall be compelled to give the names of such shippers to the public.

Such a practice of sending virgins would mean not only the loss of the package but the crop.

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Questionnaire At Summer Bee Meets

Mr. H. J. Rahmlow, Secretary of the State Horticultural Society and of the State Beekeepers' Association, introduced rather a new feature at the state field meetings of beekeepers at Platteville, Menomonee Falls, and Ladysmith, on July 23, 24, and 26 respectively. This consisted of a questionnaire at which he presided.

Mr. Rahmlow is a practical honey producer and appreciates some of the finer problems connected with the industry. The questions were submitted to some of the leading men in the industry who responded briefly. In some cases Mr. Rahmlow offered comments, sometimes agreeing and sometimes taking issue with the answers given.

Questions have been asked and answered at other conventions but always by one man. At the Wisconsin meeting the answers were by different men, those who had had the most experience along certain lines.

The questionnaire as handled by Mr. Rahmlow covered live issues and brought forth some live answers from real experience and knowledge.

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What Uncle Sam is Doing for Bee Culture

The Government Bee Culture Laboratories at various stations in this country, under the direction and supervision of James I. Hambleton of the Bureau of Entomology and Plant Quarantine, Washington, D. C., are rapidly developing a new system of honey production, some parts of which are epoch making.

The Senior Editor has visited all these laboratories save one, that at Laramie, Wyoming. Briefly, here are some of the main features which we have gathered of the new system of beekeeping, on which we hope to elaborate more fully in these columns during the coming months.

Importance of Pollen Reserves

(1) These various Government Stations are showing most conclusively the value of pollen, or pollen supplements, in the building up of colony strength before the honey flow. Literally, bushels of natural pollen, as we shall show later in pictures, are secured from pollen traps. There is a need for increased brood production during late winter and early spring when pollen is absent or scarce. Maximum honey production may be sacrificed profitably in a few colonies in order to provide pollen for apiaries during these critical periods. We saw, at Baton Rouge, Louisiana, Davis, California, and Madison, Wisconsin, both pollen and honey being gathered in quantities.

This pollen when mixed with soybean flour in the proportion of one part pollen and three parts soybean flour, seems to make a very good substitute for the pollen alone. Brood and bees develop on this mixture, and the bees seem to be in every respect equal to those produced on pollen alone. So much for pollen.

Winter Brood-Rearing Normal

(2) Experiments and observation show that winter brood-rearing is a normal function and should be encouraged by supplying colonies in the fall with a maximum of natural pollen in combs. Where natural pollen reserves are inadequate, soybean flour supplemented with trapped pollen and mixed with sugar syrup may be fed in the form of thin cakes placed on top of the frames directly over the brood nest. In order to have strong colonies for the honey flow, it is just as essential to insure pollen for brood-rearing as it is honey, so say the Government men. They show that plenty of pollen increases not only colony strength, but colony production of honey. This was plainly attested in the U. S. Government apiaries, and which we will show in pictures.

Plural and Upper Entrances

(3) Dr. C. L. Farrar is using in the Government apiaries, one-inch

(Continued on page 596)

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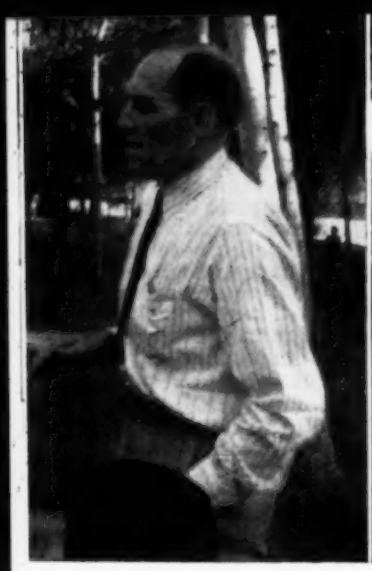

M. G. Dadant: He paid a glowing tribute to the fine work of N. E. France, pioneer bee inspector of the United States.

H. J. Rahmlow: He was the moving spirit of the Wisconsin field meets during the latter part of July.

Dr. C. L. Farrar: He explained new doctrine of wintering and necessity of large reserves of pol

Gwin: A the f utting

Some Personnel of the Wisconsin Meeting

By E. R. Root

The first meeting occurred on July 23, at Platteville, the home of N. E. France; the second on July 24 at Menomonee Falls, at the home of Walter Diehnelt, known as "Honey Acres", and the last at Ladysmith, on July 26.

The meeting at Platteville was held in honor of the veteran bee inspector, N. E. France. Glowing tributes were paid to his excellent work by Mr. M. G. Dadant and E. R. Root. It was stated that Mr. France, through his fine work, had really set the pace for bee inspection work and legislation pertaining to bee culture throughout the entire country. While as Mr. France says, he may not have been the first inspector, it was doubtless due to his efforts that bee inspection became a part of the policy of nearly all the states in the Union. Had Mr. France's work been less effective, it is possible that the disease known as American Foulbrood would have made a much greater advance over the country than is now shown.

H. J. Rahmlow, State Horticulturist and Secretary of the Wisconsin State Beekeepers' Association, was certainly the moving spirit of the three field meets. Not only a horticulturist, Mr. Rahmlow is also a beekeeper who is following and explaining to the public the excellent work done by the United States Bee Culture Laboratory at Madison, Wisconsin, under Dr. C. L. Farrar. His questionnaire was a unique feature of all the meetings. As the questions came up, one after another, he picked out his man to answer that particular question. It is the hope that he will present a like questionnaire at one of the National meetings.

Dr. C. L. Farrar and his associates at the United States Bee Cultural Laboratory, at the University of Wisconsin, Madison, are doing some work which, in the minds of many of us, is almost epoch making. They are showing that the importance of packing has been over-emphasized at the expense of other factors covering the internal conditions of the colony, namely, the strength of the colony, young bees and a young, vigorous queen, a large reserve of natural honey, and especially a large reserve of pollen. All this is enlarged upon on page 567, this issue.

James W. Gwin of the Marketing Division is a forceful speaker. He did not mince words as he went on to explain the futility of price cutting, especially on the part of some of the larger distributors in the United

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win: A forceful speaker, he the folly and futility of tting by large and small bottlers.

Robert Knutson of Knutson & Son. He pointed out five points to success.

Mrs. Harriett M. Grace: Explained the work of the American Honey Institute.

States. He asked who was paying the bill, to which he replied, the honey producers, of course.

Robert Knutson and Son of Ladysmith, Wisconsin, operate some 600 colonies of bees, and the entire process of extracting is done in the upper story of his home. He has worked out a plan, using steam and hot water, by means of which he can not only extract his combs in the upper story of his home, but deliver it to the basement to be put into cans.

He explained how he had been caught by low prices on package bees and queens. Some of the queens turned out to be drone-layers. It was a hard-luck story in which he told of a loss to him of between $1,000.00 and $1,500.00.

One of the most unique extracting equipments which I think I have ever seen is located at Menomonee Falls, in charge of Walter Dienelt, President of the Wisconsin State Beekeepers' Association. He uses a simple apparatus which he himself constructed. His outfit is so good that we are reserving a description with illustrations for another issue.

At several meetings Mrs. Harriett Grace and her assistant, Mrs. Eggleston, presented the work of the American Honey Institute. Mrs. Grace, a graduate in home economics, is making some valuable contacts with other economic workers all over the United States. She is giving broadcasts and making contacts with some of the large baking companies, furnishing materials so that the bakers will know just how to use honey in their products.

With the prospect that Europe will

(Continued on page 594)

Mr. and Mrs. N. E. France, and Mr. H. J. Rahmlow.

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From North, East, West and South

NORTHERN CALIFORNIA, Aug. 5.

Weather: July and August are real summer months in California, and we have every kind of climate found any place in the United States. Here in the Bay Region, we have little really hot weather, the average maximum temperature being 65° during these two months. One hundred miles to the north of us and the same distance south, the temperature reached 100° several times during July, and rain is a stranger. In the mountains, a shower is not at all uncommon.

Condition of Bees Varies: Here the honey flow is past and the commercial beekeepers have moved their bees to new pastures. They are now in good honey flows; north of us in the alfalfa, and south of us in the lima beans, where prospects indicate a fairly good crop. Neither sage nor orange were the crops they promised to be early in the season. There seems to be a lot of guessing about the crop of star thistle honey which is just now commencing. The growth of plants is the greatest in several years and this is what is causing the discussion, the "old timers" claiming the heavy growth produces leaves instead of flowers. So far, no one of our honey-producing plants has produced a bumper crop so it is left to star thistle to give us something in the way of a record-breaking crop for producers to talk about this coming winter.

Miscellaneous: The American Honey Producers' League announces big plans for its convention to be held in Omaha during October. We have a number of members in California, and we should be represented at this convention with a good sized delegation. Louis Hines is the Secretary, and his address is 5214 South 52nd St., Omaha, Nebraska. November 6, 7, and 8 are the dates fixed for the convention of the State Association at Hollywood. The Arrangements Committee assures us of many surprises in the way of entertainment.

The California Honey Producers, a new marketing organization for producers, announce a very successful first year. They have succeeded in getting all the members to make a special effort in preparing their honey for market, by careful handling in every way—and for the last move, only new cans and cases are used. This has met with the general approval of Eastern buyers.

The organization which has been working on a plan to produce a cereal with honey ready for use report that they are about ready to put their product on the market and that they will use large amounts of honey in their production.

The Bees and Honey exhibit at the Golden Gate Exhibit continues to attract much attention. During the last two weeks, we have had visitors from every State in the Union.—Cary W. Hartman, Oakland, Calif.

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SOUTHERN CALIFORNIA, Aug. 1.

Weather: July was all that any one could wish; that is if warm sunshine day after day is one's idea of the ideal. No rain in the valleys and very little in the mountains.

Honey Crop: Orange is as reported in earlier letters. Black sage yielded well in a few locations at about the time of the orange. White sage and wild buckwheat which bloom at about the same time and later than the orange were very disappointing. Perhaps a fair guess would be from ten to twenty pounds per colony. Bloom was plentiful and, oh, what a difference it would have made had we gotten three inches more rain in the spring.

Market: Price remains about the same as far as we can learn. Buyers are not at all active but will quote prices when requested. It is an unfortunate state of things and none of us seem to see a way out. Not only honey but many other farm crops are the same. Wonder if it is not a condition like we heard suggested, "That we are trying to make people eat two loaves when one is enough".

Beeswax remains about the same, around 19 to 20 cents per pound.

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A small crop and a low price make Jack a skeptical fellow.

Miscellaneous: Vegetation on all the unirrigated bee ranges in Southern California has passed the nectar producing stage for 1940 and is getting very dry. Some of the semi-moist and what is called sub-irrigated lands are still furnishing a little nectar but bees located in those sections will do well if they get a fill-up for winter stores.

We remarked to a beekeeper the other day that we would get a honey crop one of these years and his wife, who was nearby, said, "That is what I have been hearing for five years and I begin to wonder if we will ever get a crop." It certainly is discouraging, more especially to the fellows who have been in the business only a few years. Some of us old timers look back at former years with a hope that they will one day come again.

Very few bees are changing hands. In fact, we have heard of no sales and the present honey prices certainly offer little encouragement for investment. Most of the beekeepers are keeping their colony number up. A few watch for swarms to replace losses but most of the beekeepers use the division method.

Disease is well under control and one good honey crop would put new encouragement into many a fellow who is low in spirits now. Some say that I am always optimistic but after forty years I still think that there are bright days ahead.—L. L. Andrews, Corona, Calif.

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TEXAS, August 1.

Crop Conditions: July was very advantageous both to the bees and beekeepers. The light honey flow which was on over much of southern Texas continued until what appeared to be a year of total failure proved to be one almost normal. A large portion of this belated honey crop came from mesquite which means that the beekeepers have a superior flavor in the honey production in 1940. The rains of June and early July have placed sufficient moisture in the ground to carry the bees through the remainder of the summer on small amounts of stores as many of the belated annuals are blooming. Also broomweed promises to make a crop this year. In the hill country the evergreen sumac is in excellent condition and will give the bees a flow in September and October. Just at present *Rhus copallina* is in full bloom and is furnishing a light flow. Few reports have been received as to the exact amount of honey produced. It is doubtful if many of the commercial beekeepers will remove a great amount of honey taken due to the fact that a strong field force from which package bees can be drawn next spring will be of more value than the honey.

Miscellaneous: A number of reports of losses of colonies of bees from cotton poisoning came in the latter part of the month and from sections where cotton poisoning has not been practiced heretofore. In these times when it appears that the production of food is extremely desirable, the cotton growers and the beekeepers must get together and decide whether the greatest need for the world is food or cotton.—H. B. Parks, San Antonio, Texas.

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NORTH DAKOTA, August 4.

Weather: There was a serious lack of rainfall during the fore part of summer particularly in the eastern half of the state. This had a damaging effect on sweet clover because of the dry condition of the subsoil. Lack of rainfall to keep the roots watered in the topsoil and practically no moisture in the subsoil resulted in the loss of many plants. Heavy rains of late, however, have worked wonders on those plants which survived the preceding unfavorable period and there is now a fairly plentiful supply of bloom.

In general, the colonies are storing honey satisfactorily from the sources available. Some beekeepers have reported of late that the recent heavy rains, while improving the growth of the sweet clovers, have washed the nectar from the blossoms and that much of the honey being harvested is from alfalfa.

Observations on the plants locally have shown the bees to be working on both sweet clover and alfalfa in fairly equal numbers. Beekeepers whose yards are located along river valleys where basswood occurs report that their bees were gathering from this source during July.

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Miscellaneous: Extracting was well under way in bee outfits I have visited of late. The honey is of fine quality and while the yield is not as great as could be wished it is greater than was anticipated before the recent rainfall which has helped the plants. Weather conditions for the balance of the season will largely determine the final yield. It is most encouraging for the future welfare of the bee and honey industry to see so many fine modern honey-houses with their up-to-date extracting equipment being operated by beekeepers. Most of these outfits are in the Red River Valley but a few are to be found farther west particularly along the Missouri River where beekeeping is making a substantial development.

Beekeepers have expressed rather keen disappointment about the common practice on the part of many farmers to plow their sweet clover under early in the season. The practice appears to be general and has put many beekeepers to the trouble of moving their apiaries to new sources of bee pasture.

A joint summer meeting of the Minnesota and North Dakota beekeepers associations held at Detroit Lakes, Minnesota, on June 21-22, was attended by upwards of 75 beekeepers. The program was featured by a field trip to the Paul S. Johnson beeyards at Callaway, Minnesota, where an opportunity was afforded of seeing one of the best equipped and most modern of honey-houses in this section of the country.—J. A. Munro, Fargo, No. Dak.

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COLORADO, August 3.

Weather: The torrid heat wave that overlapped into Colorado during July receded near the end of the month as cooling showers fell. Temperatures of 100 degrees or over seemed to be the regular schedule of the day in the lower altitudes with a maximum of 113 degrees recorded in the Arkansas Valley. This stimulated a number of people to scamper for higher elevations where a haven could be found in some cool mountain recess.

Like other mountain states Colorado enjoys a great variation in its climate and is geographically divided into five climatic or life zones. Beginning with the Plains zone which is that part of the state which is below the altitude of 5800 feet, we go upwards into the Transition or Foothill zone which extends up to the 8000 feet level. The commercial beekeeping is practiced in this and the Plains zone. As we proceed upwards we enter the Canadian or Mountain zone which reaches up to the 10,000 feet elevation and includes most of our mountain highway passes. Here the quaking aspens are at their best, and the coolness and the freshness of the air makes us want to linger and fill our lungs to the utmost. Above 10,000 feet we encounter the Hudsonian or Sub-Arctic zone which has the timberline as its upper boundary and is at about 11,500 feet or little over. The climate at this height can be compared to that of Hudson Bay and Northern Canada. Here we find the snowshoe rabbit, bighorn sheep, and the unique cony or pika. At the timberline, where the forest ends, we observe trees of twisted, gnarled, and fantastic shapes, windswept individuals perhaps a foot or so in height, yet their age is often counted by the centuries. From the timberline up to the mountain summits we have the Arctic or Alpine zone. Scrubby shrubs and dwarfed plants that are found in the Arctic Northland are also found growing here.

Crop: Eastern Colorado has enjoyed a better flow than for several years past and even some comb honey has been secured, which is somewhat unusual. This is not universal, however, as some localities owing to weevils and other insects have produced little more than for colony requirements. Some yards have gathered much inferior honey from dog fennel. This honey is so odoriferous that it can be scented before the bee yard is entered. Honey like this should be left on the hives with the bees as it makes good winter stores. It is not very palatable to humans and a can of it placed on a customer's pantry shelves would probably last until tossed out and stop future honey sales for a long time. San Luis Valley, on account of extreme dryness, has experienced a much retarded flow, and unless copious rains come soon the season will be all over very early as the clover is seeding rapidly. On top of this, the poor germination of the sweet clover seed this season darkens the prospects here for next year also. Reports from Northern Colorado and the Western Slope indicate that a fair to good flow has been in progress.—G. A. Pauli, Pueblo, Colorado.

IOWA, July 19.

Honey Flow: The great abundance of sweet clover which has been brought about through the AAA program has resulted in an unprecedented amount of bee pasturage. The full value of this situation cannot be realized by producers because all of the colonies were not up to prime condition by the time the honey flow started. The late spring conditions were unfavorable enough but some colonies were definitely deficient in one or more respects. The value of sweet clover as an all-purpose plant is being more and more demonstrated and the relationship of honey production to general agriculture is also evident in this association with sweet clover.

Crops: The crop conditions have been reported as at least normal in spite of the full returns from some colonies. Colonies which have reached their peak will harvest a very good crop of honey. The quality of the honey is superior to that of the last two years, being exceptionally heavy in body, very light in color and with an excellent aroma.

Market: As yet it has not been possible to establish a market for honey, although a few independent inquiries have been received by producers relative to the price which would interest them in moving their crop.

Miscellaneous: This has been an exceptionally good year for drawing out foundation. Many colonies have been supplied with one and even two hive bodies of entirely foundation which was accepted readily and built into perfect combs. This is of special value to those who are interested in an improvemnt of their present equipment, or those who may be interested in a possible expansion program.

The fall series of radio discussions over WOI, 640, Ames, will begin again on Monday, September 16th as a part of the Farm Facts Hour, 6:30 a. m.

The District Short Course held on July 12th at Denison was an unusually fine course. The CCC Camp acted as host for this meeting as they had a special interest in their class in beekeeping. One hundred and fifty people were registered for this course and the program which was offered to them seemed to meet with unanimous approval. Other district short courses are contemplated for other sections of the state during the fall. Details are being developed at this time.

The annual meeting of the State Beekeepers' Association will be held November 20th in conjunction with the State Horticultural Society which is celebrating its 75th anniversary. Special emphasis will be given to the history of Iowa beekeeping.

Work with 4-H clubs has developed this season in number and in effort. The demand for this work in Cerro Gordo County is the result of the increased acreage of legumes and the need for a larger seed production which indicates the realization of the role of bees in improving legume seed set. Each of the counties have held a tour which seemed to be enjoyed by the club members who could participate and undoubtedly gave the members an opportunity to see many conditions existing over the county. Regular educational meetings constitute the program for the fall and winter.—F. B. Paddock, Ames, Iowa.

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SOUTH DAKOTA, August 5.

Weather: Lack of rainfall put an unseasonable end to the honey flow about the middle of July. Some general rains since the first of August are reviving clover in some pastures and along roadsides so the bees will be able to gather a living for the remainder of the season if no more.

Honey Crop: In this section the estimate is a fifty-pound yield per colony. The practice of raising the early maturing yellow blossom clover accounts for our low production about as much as anything else. We would like to see the time again when the white blossom clover should be in the preferred class with honey flows that last.

Reports from counties to the North where white blossom is being grown and where moisture conditions have been more favorable indicate a good flow is continuing.

Considerable moving has taken place recently to place yards in these

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favorable areas so there still may be a chance to raise our general production for the season.

A few years ago I moved a 20-colony yard about 20 miles around the first of September and secured 50 pounds surplus from each.

Market: We don't know what the market will be yet, but it seems a rather short crop should result in strong prices compared with last year. Inquiries from out of state are asking for prices on carload lots.

Miscellaneous: I found a five-pound swarm in a boxelder bush in one of my yards a few days ago. I knocked them into a hive body, but they hung on the edges, refusing to go in. Looking around I found a small knot of bees on a weed, among them a virgin which I ran in with the swarm. Later I went back to the bush and found another bundle of bees and another virgin which I dispatched. Now I wonder how many virgins go out with a swarm?

For the last couple of months I've had an ache in one elbow. I attribute the affliction to hard work, but some cynics would probably say it's just a sign of old age. At any rate I made a bee sting it once, but it didn't seem to do any good. Last Sunday I got plumb disgusted so drove out to a yard and planted four healthy young bees hard around the joint. It swelled up to jolly proportions and now the ache is practically gone.

Beekeepers are great fellows. They are purveyors of the earth's finest sweet, and virtually their own doctors. They can't go wrong.—J. F. Norgren, Junius, So. Dak.

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MONTANA, July 31.

Weather: The last two days have been pleasant and the outlook for honey looks better than for some time. We have just had some rain over the entire state.

Prices: Last year's honey is practically all cleaned up. The local trade has been partially supplied with new honey at about last year's price. There was a very active demand for honey in May and June, which seemed to be for Canada. I have known of 100,000 pounds going there, by truck and railroad. We wish for the Canadians a big crop this season, but if not, hope that they come back to call on us again.

Crop: Dandelion honey was just half a crop and many bees had to be fed before the main honey flow and it took half of the honey from the first cutting of alfalfa to fill the hives. By the first of July the moisture was all out, the air was too dry.

Miscellaneous: There have been many fires, and one apiary burned up. I have not heard of anyone having insurance on bees or equipment. One beekeeper had insurance but it was canceled on account of bee supplies being stored in the building. We should know what others do about insurance.

The Flathead Valley reports a very fine honey flow and are looking forward to a very good year.—Parson Pile, Corvallis, Montana.

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NEW JERSEY, August 5.

Weather: At a recent meeting one beekeeper said the winter lasted until the middle of June. This statement, of course, is not correct but it does serve in a way to express the general attitude of beekeepers toward the late spring season this year. Cool, cloudy and wet weather continued right up to the first of July. Since then there has been a let-up in the rain although there have been many cloudy days together with very warm summer weather and at the present time rain is needed but there is no dry spell to compare with some of the drouths of recent years.

Honey Flow: Practically all beekeepers were complaining at the first of July that there would be no honey crop. The majority of reports were pessimistic. The earlier flows, including tulip, gave little marketable surplus except in certain cases. Weak colonies had more than the normal period to build up to gathering strength and winter losses were very largely made up, either by swarming which was heavy, or by natural increases so the score was about even with most beekeepers at that time (July 1st). Early in July, clover followed by sumac, and in some localities, basswood also started to yield nectar. It is too early yet to judge but from all indications much of the northern part of the state will do very well from these. The suburban area in particular has had one of the best flows in many years at this season. For example a beekeeper near Paterson has extracted so far an

average of 80 pounds from his several colonies and every school in West Orange and East Orange that has an observation hive is producing honey. In each instance at least four sections have been completed per hive and most have practically finished eight, This applies also to the one-frame observation hive in the Newark Museum located almost in the heart of the city. To secure fine sections in a one-frame hive requires a good honey flow.

Miscellaneous: A year ago in this column mention was made of spotted knapweed *(centaurea maculosa)*. This plant (of the star-thistle group) has been in bloom since mid-July and is very freely visited by bees. It grows in large patches along roadsides and in waste places and is quite common through the northern part of this state. Flowers are blue or purple and rather small and numerous. Although distinctly thistle-like in its appearance the plant has no thorns. The way the bees go for it plus its blooming period in July and August might indicate that its possibilities for beekeepers are worth some investigation. Another thistle-like plant growing in this state is blue weed *(Echium Vulgare)* called also blue thistle and Viper's bugloss. Like the knapweed it also grows in fields and roadsides but is decidedly more of a pest to farmers than the knapweed. At least one large N. J. honey producer regards this as an important source of surplus in his area.—John Conner, Caldwell, N. J.

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VERMONT, August 1.

Weather: As usual for Vermont, we have had plenty of it in the last several months, consisting mostly of cold and rain in spring, and hot and rain this summer. In many sections of the state we had a frost the 22nd of June, beans and cucumbers in our garden were nipped. The cold spring made everything late, the honey flow starting the 1st of July instead of the 15th of June as it should. Even house flies have been late. We saw practically no flies until the last week in July. Though rains have been frequent, the total amount of precipitation has not been large. Rivers and brooks have been below normal. Raining every two or three days has made haying difficult and slow, and many an acre of beautiful clover and alfalfa has been ruined. Usually haying is finished at this time, but this year there's plenty of it left.

Honey Crop: With our cold winter just passed, I predicted a big crop of honey this year. However, the prediction hasn't panned out so good, the cause, of course, being the weather. If our honey flow had started the middle of June we would have had a good crop. When the honey did come in the first three weeks of July it came in fast and clovers seemed to be full of nectar. The weather at this time has been hot and muggy, and instead of clovers drying up, have kept very fresh and in good bloom up to the present time. However, the flow is practically finished now and the result will be a fair crop, about the same as last year, an average of 75 lbs. per colony. It is of good quality and light colored.

A weed that is becoming abundant here is chickory. It has blue, daisy-like blossoms and some fields are just blue with it. For the past three years I have been watching it to see if it yielded honey. It blooms just after clover so should be evident if it does yield. In looking at some new honey yesterday, the bees had gathered a light grayish-looking honey which might be chickory, though it is difficult to tell it from clover. We hope it does yield honey, about the only thing it would be good for.

Miscellaneous: It has been interesting the last year or two, to hear and read the remarks made in reference to AFB resistancy. I made the remark last year that I don't bother checking up colonies that were cleaned up of AFB with resistant stock. Most beekeepers tell me I'm terribly careless, etc. The truth is, I'm not careless, but after nine years of experience, one gets a pretty good idea just how resistancy works and what to expect of it. To date, I have never yet had a recurrence after once cleaning up, not one year or two years but the past nine years. The secret of the whole thing is experience and until one has it, one should not do anything foolish. The editors of Gleanings give a reason for burning AFB, in that it disposes of susceptible bees. This is all true, but where will it get us if susceptible queens will be bred and sold as fast as diseased colonies are burned up? Susceptible bees must be replaced with resistant stock if we are ever to stop

burning. The distribution of resistant stock this summer by the experiment stations is a step in the right direction. It will be interesting to see its effect on bees and beekeepers.—Charles Mraz, Middlebury, Vt.

[It seems evident that Mr. Mraz may have a strain of bees different in its ability to resist AFB than the general run of bees over the country. Our advice to beekeepers is not to temporize with AFB because it may get you down.—Editor.]

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ONTARIO, August 3.

Weather: At this date, most of the beekeepers in Ontario will have a fair idea at least as to the crop of white honey. From meager reports received to date it appeared that the crop is very spotty with light yields predominating. The few bees we have in Wentworth County have done well and it looks as though the Niagara peninsula in general has been blessed with a good clover yield. We have two apiaries in Victoria County and there also the crop is normal and at one small apiary in particular we have wondered where the honey has come from. That locality was ravaged with a drouth last summer that simply burned everything up and as much of the soil is close to rock, this spring we seriously thought of moving the bees. And now we find the largest yield for the season with us is at that place. A few reports from Grey and Huron Counties indicate a fair crop in some places, with failures in others. July 2 was the date that bees in general all over Ontario started to store from clover and for six days the flow was good with strong colonies filling a standard super or more. Then we got heavy rains and although weather seemed ideal for nectar secretion, alsike yielded nothing after that date.

Markets: The marketing situation still remains very indefinite as no one feels quite sure as to what attitude the British Government will take on the matter of issuing import permits. Latest advice seems to indicate that permits will be issued to firms that imported in 1938 and that amounts will be limited to imports of that year instead of the large figures for 1939. But it is hard to say what the final ruling will be and in the meantime everybody is guessing. No question but that the market over there wants to purchase large quantities of Canadian honey. Whether they will be permitted to buy it or not—that is the question.

Miscellaneous: The boys moved 18 colonies from a locality where no alsike is grown to a place near home where there was at least 50 acres of alsike within a mile of the yard. Yes, you have guessed it—the flow was better where the bees had been than where we moved them. However, that is part of the game and we have to take chances. Where the bulk of our bees are here in York and Ontario Counties the flow in general has been light with less than half a normal crop. One exception to this is an apiary within reach of the suburbs of Toronto where much land is lying idle. In addition to the clovers many acres of wild vetch or tares grow profusely with vines like peas, and the blossoms running from blue to purple. From observation during the past few years we feel sure that this plant is a major honey source when plentiful.

Package bees bought locally this past spring did well aside from the large number of failing queens that put many colonies back at a critical time. At the apiary near Toronto where the flow was fair and where we produce our comb honey, 15 three-pound packages were placed in the yard about April 25. Each package was given two combs of honey and drawn combs as needed, food chambers being added as needed to care for increased strength of colony. Although we had many real strong colonies in this apiary that had wintered well, yet we are bound to admit that when we gave all colonies first examination for queen cells after the flow opened, these package bees were among the best, if not the best in the yard.

We hear a lot about giving pollen combs to stimulate winter brood-rearing, but here these bees started from scratch in late April and were stronger than well-wintered colonies by July 1. Someone please explain.

For the past ten days the writer of these notes has been on his back in bed suffering from a complication that often follows an operation like he underwent last May. At least, that is what the surgeon says. Gradually improving and as these notes are being typed with the machine by my bedside, allowance will have to be made if they are worse than usual.—J. L. Byer, Markham, Ontario.

American Honey Institute News Notes

The Institute had a broadcast on July 24 on "Honey, Jams, and Jelly Making" and on August 8 on "Honeyed Pickles and Preserves". So many requests came to the stations WHA and WLBL that a recipe leaflet containing these recipes will be edited and distributed by the University Station to those who have requested them.

The broadcast on August 8 began:

I greet you
From the oldest station in the nation
As I recommend Honey
The oldest sweet in all creation.

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Westinghouse Electric & Manufacturing Company writes: "The Honey Recipes are excellent. We have tried a good many of them and will send out the information about Honey Week to all the girls in our district within a few days".

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The Chicago & Northwestern Railroad will give this service to help promote the use of honey:

1. Honey will be featured on dining car menus.

2. Reference will be made to Honey Week on Chicago and Northwestern Morning Surburban Hour, (Tune in on this program, hear Norman Ross).

3. Release is to be made by the Mayer organization which will be associated with Chicago & Northwestern.

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Progressive Grocer in "Flashes" announces National Honey Week October 28 to November 2 and writes that they will feature honey in the October issue in the "Calendar of Food Dates".

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It's smart for women to belong to American Honey Institute. We may have a page for women this year. Women's names added recently are: Mrs. O. W. Rawson, East St. Louis, Illinois; Mrs. George P. Walton, Washington, D. C.; Miss Ethel Coon, Washington, D. C.; Misses Mary Conover and Elizabeth Heimerl, Oconomowoc, Wisconsin; Miss Adelaide Clark, Fairport, N. Y.; Mrs. A. Gage, Williamson, N. Y.; Mrs. Clarence La Fleur, Midland, Michigan; Miss D. Timmerman, Hamlin, N. Y.; Mrs. Alfred Srail, Cleveland, Ohio.

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The Institute added twenty new members to its membership list during the month of July.

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A meat packer writes that his firm uses fifteen tons of honey per year in curing meat.

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Is your honey container one that you can "play up" for various uses such as ice box dish for relishes, spices, cereals, or for use on the table?

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From Here and There:

Ann Batchelder features honey in the September issue of Ladies' Home Journal.

Kellogg's feature honey in a Peach Crisp Pudding Recipe.

Kroger Grocery and Baking Company features honey in a Peach-Orange and Honey Cup.

In Patricia Collier's Home News Bulletin, 90,000 copies of which are released every month, Dole Pineapple features honey.

San Francisco Examiner recommends the American Honey Institute to those who desire honey recipes.

Southern Counties Gas Company, Pomona, California, asks for special honey recipes.

The American Honey Institute recently prepared a leaflet entitled "Make Meals Healthful with Honey Recipes" for a group that printed and distributed thousands of them.

The Bergen Evening Record, New Jersey, features honey.

Radio Stations in various sections are asking to feature the Institute's leaflets. We cannot afford NOT to accept their offers.

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Remember National Honey Week, October 28 to November 2. Orders ranging from one window streamer to 2,000 have been received. Help us to continue featuring **HONEY FOR BREAKFAST** by securing these window streamers to place in stores.

XUM

Heads of Grain from Different Fields

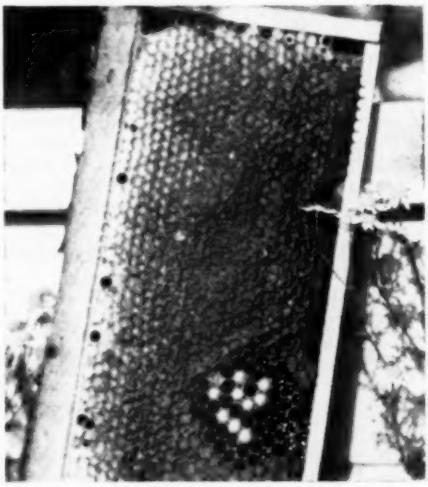
Curiosities

The good-sized swarm pictured here seemed normal until it settled on a tall genesta bush. Then it split into three parts. (The third one is at the left upper corner of the picture,) Since it hung thus divided without attempting to get together until it was cut down and put into a sack more than six hours after swarming, I suspect that there may have been a virgin queen in each cluster. What does the Editor think?

[This seems very probable.—Editor.]

The three-way swarm.

The comb of honey with ten cells of live drone brood in it was taken from a super above a queen-excluder. The brood-chamber was occupied by a laying queen. Except for one drone larva on the other side of this comb directly opposite the ones shown in the picture these were the only cells of brood above the excluder. At least twice before within twenty years I have observed the same phenomenon. Since the misplaced larvae were always drone larvae, I suspect that laying workers are sometimes present even when the colony has a queen.—Flora McIntyre, Pasadena, Calif.



Even a good colony goes wrong once in a while.

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Labels for Honey Jars

If any of you small beekeepers are also amateur photographers and can do passable lettering, you can make very neat bottle labels at low cost. **First,** make up your label design in black drafting ink on white paper, and make it large, at least six by twelve inches. This is to minimize irregularities in lettering and technique. **Second,** photograph your design with your camera, down to whatever size you want the label. Use Process film, for extreme contrast. Make several negatives, all alike. **Third,** print several of the negatives at one time in your printing frame, on ordinary blue print paper, obtainable at an art supply store. The paper is very slow, and can be handled in subdued daylight, and must be printed by sunlight.

Fourth, develop the prints by merely immersing them in water. The labels will have blue letters and design on a white ground. If you prefer brown, purchase Van Dyke paper, and use it the same way. Labels made this way cost about 10 cents per hundred. Stick them to your bottles with ordinary wallpaper paste; 5c worth will stick 1000 labels.—C. W. Carroll, Rochester, N. Y.

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An Open Air Swarm

The picture was taken on October 22, 1939, at Longmeadow, Mass., just before the bees were taken down and put into a hive for winter quarters at V. W. Ellison's back lot apiary. They were hanging about 30 feet

A beautifully shaped swarm with combs built in a pine tree.

from the ground, the hardwood trees around keeping them secluded. I cut the limb so the ends fitted against the inside walls of the hive. Never before have I seen a well established colony of bees living in the open.—B. F. Ellison, Elmwood, Conn.

[Swarms have been known to make their homes in the branches of trees and some of them have actually survived the winter in regions where the mercury does not go too low.—Editor.]

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Your Morning Smile

"Honey, madam? Yes, we have two brands—the Quality of Mercy brand and the Kristal Klear brand."

"Is there any difference between them?"

"Yes, madam; the first is not strained."—From The Toronto Globe and Mail.

Some Things I Have Noticed

(1) That roaches eat honey. One night while cutting some chunk comb one roach was brave enough to climb up on the table where I was cutting and draining the comb, and I saw another licking at some that had dripped on the floor.

(2) That bees without shade, seem to be gentler than those with shade, as long as we have cool nights, during the spring.

(3) That a colony of a vicious temperament usually has a queen that is nervous and hard to find.

(4) That I have discovered the bees of such a colony balling their queen on my third round of cell killing.

(5) That cell killing each week, or ten days, may increase the temper of the bees. After the first batch of cells has been destroyed, they seem to resent the repeated destruction.

(6) That most colonies, so treated, continue to rebuild cells, and eventually swarm anyway in this locality, no matter how good the queen, in comb honey production.

(7) That a swarm which I hived on empty combs this season, with supers from the parent colony transfered to the swarm, had cells three weeks later. These were killed, and the queen caged for ten days, after which cells were again killed, and queen released. No further attention was given thinking this colony should be settled for the remainder of the season. But about two weeks later, out come a swarm, followed a few days later by two or three after-swarms.

(8) That a laying worker colony can be united to a strong queenright colony by the newspaper method, during a honey flow.

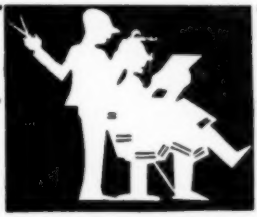
(9) That half sheets of foundation in the brood nest usually result in combs of half drone and half worker cells.

(10) That half sheets of foundation in shallow comb frames give many drone cells. My bees usually leave these drone cells open until the very last, even though they are above a queen excluder.

(11) That I can take honey from my small apiary during a dearth of nectar, without being troubled but little with robber bees, by giving each colony three good heavy puffs of smoke at the entrance, before removing the cover from the first. This keeps most of the bees at home for several minutes.—B. P. Sieber, Belle Ellen, Alabama.

XUM

Just News



Another of those famous Round-Ups of midwest beekeepers will be held at Newport, Ind., Saturday, September 7, 1940. This has grown to be an outstanding event in the beekeeping world with an attendance of a thousand or so from some 15 different states. It has been rightly named the three-ring circus because of the fact there are three types of program in full swing all the time. The speaking and exhibits are housed under two big circus tents with comfortable opera chairs for all. A loud speaker system carries the talks to all parts of the grounds which cover better than an acre in the heart of Newport. In addition to the honey and wax exhibits there will be displays of all kinds of the latest beekeeping appliances. The speaking part of program will be handled by such well-known speakers as Cale, Deyell, Dr. Farrar, Kelley, Mrs. MacDonald and Mrs. Grace. They will discuss topics of current interest and on which they are well qualified.

In contests there will be something for very one, even a lucky program may win you a handsome prize. There will be a question bee, a drone race, queen finding and many other contests, including a hive nailing contest for women. There will also be contests for 4H Bee Club members. Oratory and contests will not be the only attractions. There will be music by the Newport High School band of 40 pieces, a modern queen yard and up-to-date apiary, disease-resistant bees, 250 pounds of fried fish and a truck load of watermelons. There will be no dull moments at this Round-Up which no doubt will be the biggest gathering of honest-to-goodness beekeepers ever held.—L. R. Stewart.

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This year National Honey Week comes October 28 to November 2. Beekeepers are urged to cooperate with the American Honey Institute in making this the most successful honey week held thus far.

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Middlesex County Beekeepers' Association will hold its last 1940 field day on Saturday, September 28th, at 2 P. M., at 27 Hubbard St., Concord, Mass. Mr. Perley Smith of Newburyport will speak on "Fall Management". Mrs. George Jones will be in charge of the Ladies' Auxiliary supper, featuring honey baked beans with frankfurts and rolls, honey bread, honey apple pies, ice cream and coffee. Hives will be opened. Please bring your plate, cup and silver.—A. M. Southwick, Pres.

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The "Wisconsin Hexapod" makes its June, 1940, issue a "Wilson Jubilee Issue", honoring Prof. H. F. Wilson's 25th year with the University of Wisconsin. The first chapter gives a brief biography and characterization of Prof. Wilson. There follows a summary of the work which Prof. Wilson has accomplished at the University. It is a glowing tribute to his record and one of which both Prof. Wilson and the University of Wisconsin may well be proud.

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Omaha, host city for the 1940 American Honey Producers' League convention, is preparing for a record attendance this Fall when the Annual meeting will be held October 22, 23 and 24th. Headquarters will be at the Paxton Hotel. The Management assures us that there will be plenty of conference rooms and everything that we could hope for in the way of headquarter facilities. We have been advised by our Convention Secretary, Mr. Louis Hines, of 5214 So. Fifty-Second St., Omaha, that the above dates selected would not conflict with any others which had been set by the Southern Conference, and this along with the fact that Nebraska usually has pleasant weather at that time of the year and beekeepers have by that time finished their fall work. Plans for the meeting are proceeding with the full and enthusiastic cooperation of Mr. L. M. Gates, State Apiary Inspector of Nebraska, Mr. F. B. Paddock of Ames, Iowa, and others who promise you a thoroughly successful and outstanding meeting, an event you won't soon forget. Remember the League is a **National** organization of beekeepers and as such, looks after the interests of all

beekeepers. This is an industry worth preserving, and there is no one better able to diagnose the ills of beekeeping than the beekeeper himself. Beekeeping is his job, his life work. He is interested in making it pay and in bringing happiness and well-being to himself and to his family. **It is good business** for the apiarist of America, where there is such a vast diversity of honey, market, and crop conditions, to take a few days each year for a frank discussion and attempted solution of mutual problems. It is worth the time. It is worth the money. It is worth the effort. October 22, 23 and 24—write those dates down in your memory in indelible ink and don't forget them. They are going down in beekeeping history as one of the most outstanding and brightest occasions, in beedom's calender of memorable events. —Thos. C. Burleson, Pres. of American Honey Producers' League.

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Mr. Cecil E. Heard, Chief Bee Inspector for Texas, and his assistant, Mr. W. C. O'Neal, left College Station, (their headquarters) on January 31 and never set foot on College soil again until August 8, during which time they inspected 34,008 colonies of bees and burned about 234 cases of AFB. They were on this one inspection trip a little over six months.

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The Georgia State Beekeepers' Association and the Florida State Beekeepers' Association will hold their annual convention in connection with the Southern States Beekeepers' Federation, November 18, 19 and 20, at Tampa, Florida. This will be a delightful season of the year to hold a convention as Tampa begins at this time to wear a tropical and exotic appearance in contrast to the winter appearance further north. Palms in enormous variety dominate the scene in Tampa. Vegetation is almost tropically luxuriant at this time, and there is an air about the City of Tampa as alive, enterprising, and progressive as any country in America. Climatically, it is almost ideal, either for the tourist or the visitor who may look forward to an interesting visit. The program committees of the three organizations have worked out a tentative program. Everything possible is being planned to give the visiting beekeepers the greatest meeting they have had. A number of interesting speakers have already been contacted and have accepted. The Ladies' Auxiliary is also planning an interesting part of the program and are expecting a large number of wives of beekeepers to attend. The convention headquarters will be at the Hillsborough Hotel, Tampa, Florida.—H. S. Foster, Sec., Southern States Beekeepers' Federation.

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Because of inquiries made at this office re sugar for the feeding of bees this coming winter, I have again been in communication with the Wartime Prices and Trade Board regarding the matter and am informed that the Sugar Administrator is of the opinion that there is no likelihood of a shortage of sugar nor question of limiting supplies, hence no necessity for issuing permits. Should a beekeeper in Canada experience any difficulty in securing adequate supplies, he should at once get in touch with the office of the Sugar Administrator, 437 St. James Street West, Montreal, Que., by telegram. The telegram should include the name of the wholesaler or retailer and also the name of the refinery manufacturing the sugar for the district. By doing this it is stated that any difficulty in obtaining sugar can usually be overcome within 24 to 48 hours.—C. B. Gooderham, Dominion Apiarist.

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Omaha welcomes the **American Honey Institute** and the **American Honey Producers' League** to Omaha, October 22 to 24, 1940. Omaha has long been known as "The City of Hospitality". The visitor finds a friendly welcome awaiting him and numerous points of interest to see. Second in per capita attendance in the nation, the beautiful four million dollar Joslyn Memorial Art Museum is a favorite with Omahans and guests alike. It houses a wealth of notable permanent and guest exhibits and is a civic center for lovers of music and art. Subject of the film "Boys Town", Father Flanagan's internationally known Boys Home is located eleven miles west of Omaha. Also celebrated in history and cinema is the Union Pacific Railroad, headquarters of which are in Omaha. "Golden Spike Days", a civic celebration which attracted a quarter of a million people to Omaha in 1939, commemorated the driving of the golden spike which completed the

(Continued on page 596)

XUM

Asked and

Answered

Late Gathered Honey Causes Dysentery

Question.—This past winter, both my colonies of bees died of dysentery, at least, I guess this was the cause, because all the frames and combs were badly soiled and the bees were all dead. The cause of this, I believe was the large amount of aster honey which the bees gather in my locality during the latter part of the summer and early fall. What I would like to ask you is; how can I prevent the bees from filling the empty cells in the brood chamber, after the brood emerges, with aster honey which they do not have time to ripen?—Henry Rowan, Mass.

Answer.—Occasionally a late fall honey flow from aster is followed by cold weather which prevents bees from curing the honey properly. This does not happen very often, however. As a rule, strong colonies of bees are able to drive off excess moisture from nectar, provided the weather is not too cold late in the season. Weak or mediocre strength colonies would certainly not be able to ripen honey under abnormal conditions. As a matter of fact, it is impossible to prevent the bees from filling the empty cells in the brood chamber with late-gathered nectar. Fortunately a considerable part of this late-gathered honey is consumed by the bees before severe cold weather sets in. This gives the bees an opportunity to arrange the stores in their brood nest. Some have suggested removing two or three combs from the center of each brood chamber, substituting empty combs, then feeding liberally with thick sugar syrup. This may sound rather feasible, but as a matter of fact, it would not, in our opinion, work out to good advantage. The removal of some combs from the brood chamber would interfere with the normal arrangement of the brood nest for winter. Furthermore, the sugar syrup fed late in the fall would not have a chance to ripen thoroughly. Sugar syrup, as you well know, is quite comparable to nectar. If the weather would be too cold for the bees to ripen nectar, it would also be too cold for the bees to invert the sugar syrup. And so, our suggestion is that you have nothing but strong colonies of bees, preferably bees in double brood chambers, and that you reduce the hive entrances in the early fall so that bees may have a chance to ripen the late nectar.

How to Kill a Colony of Bees

Question.—What is a safe way to kill a colony of bees in a hive, and still be able to use the honey?—Wm. T. Frizzi, California.

Answer.—You can kill colonies of bees by using Cyanogas. This can be obtained at any up-to-date drug store in pound and half-pound containers. The price is approximately $1.00 per pound. You had better read directions carefully before attempting to use it. About one tablespoonful of this chemical thrown in the entrance to a hive of bees will kill the bees in less than half a minute. The gas fumes will soon pass off and they do not harm the honey or make it unsuitable for human consumption. When using Cyanogas, keep on the windward side while handling it.

How to Prevent Granulation of Honey

Question.—How can goldenrod honey be treated to keep it from granulating?—J. T. S. Hoffner, Maryland.

Answer.—Goldenrod honey, or any other kind of honey, for that matter, should be brought to a temperature of 160 degrees Fahrenheit and kept at that temperature for only a short time, not more than fifteen minutes, then cooled. The heating destroys yeasts that may exist in the honey. These yeasts, unless destroyed, might cause fermentation later on. The heating of the honey also retards granulation, but it does not necessarily prevent it indefinitely. If honey is kept at a temperature of 160 degrees too long, it will be darkened and the delicate aroma of the honey will be destroyed.

Keeping Queens in Mailing Cages

Question.—What is the best way to keep a queen for several days—say, a week, without establishing a nucleus? If the queen is to be kept in a cage I would wish to know the temperature of the room in which she should be kept.—Gorton Carruth, Jr., New York.

Answer.—It is possible to keep a queen in a mailing cage, with some attendant bees, for at least a week, provided the cage containing the queen and bees is put in a dark room with a temperature ranging between 60° and 70°. It does no harm to put a few drops of water into the cage, through the wire screen, occasionally, to supply some moisture. If it is necessary to keep the queen longer than a week, it is possible to re-stock

the mailing cage with fresh attendant bees. To do this, remove the queen and worker bees from the cage. Be sure the queen is put in some sort of a receptacle where she will be safe. Go to a colony of bees and take about a dozen or fifteen worker bees from the colony and put them in the introducing cage. Blow some smoke, from a bee smoker, onto the bees in the cage. Do not get the nozzle of the smoker too close to the cage, but smoke the bees thoroughly. Then run the queen in with the bees, and apply some more smoke. We have done this dozens of times and we know that it works. If you do not smoke the bees, before and after you put the queen in, the bees will kill the queen as a rule. The smoke seems to deodorize the bees and queen.

Killing Bees in Siding of Building

Question.—A man wants a swarm of bees removed from a house. The entrance is a small knot-hole under a clapboard. A reversed piece of board each side of the entrance screen and bee escape, also hive near the entrance does the trick. After about a month there are a few bees left in the house. What is the best chemical to use to kill the remaining bees?—Frank S. Mason, Mass.

Answer.—In order to kill the few remaining bees in the siding of the building, after most of them have been removed by means of a bee escape, one can use Cyanogas. This can be obtained at a drug store in half-pound containers at about the rate of $1.00 a pound. This chemical is very powerful and must be handled with great care. Some sort of a gun may be used to blow the Cyanogas, which is a powder, into the hole. A small amount may be poured into the nozzle of a bee smoker and blown into the hole. To be on the safe side, the occupants of the house should vacate while the Cyanogas is being applied, because some of it might seep through into the rooms of the dwelling house.

Bees Do Not Work in Supers

Question.—I have a colony in a two-story hive which worked very well in the spring and the hive bodies are full of honey. I put on a super and it has been there for a month and the bees have not touched it. They are not working but seem to be healthy and have plenty of brood.—Marshall Putnam, New Hampshire.

Answer.—It is a fact that two-story colonies sometimes hesitate about storing surplus honey in supers above the queen excluders. When the double brood chambers get clogged with honey, it is advisable to confine queens to the lower brood chambers by means of queen excluder, then place the extracting supers directly above the queen excluders and place the upper brood chamber, or food chamber, on top. Make sure to get the queen down in the lower chamber. There is likely to be some brood in the upper brood chamber placed on top. This has a tendency to draw the bees up through the queen excluder, into the supers.

Chemicals in Honey

Question.—Can you inform me the difference if any, in honey that will granulate and honey which does not granulate. Does the granulating kind have more cane sugar content? What I am driving at is, I have one customer whose physician advises him not to eat any sweets other than honey, and this customer thinks that honey which will granulate might not be as good for him as honey that will not granulate. I am unable to advise him whether honey in its liquid form so long as it remains liquid, is as good for him as that which will not granulate.—B. P. Sieber, Alabama.

Answer.—All honeys contain a little more levulose than dextrose. Some honeys contain much more of the former, and are therefore not inclined to granulate. Honeys which are high in dextrose, such as alfalfa and sweet clover, will granulate readily. Conversely, honeys high in levulose, such as tupelo and mountain sage, will remain in a liquid condition for one, two, or perhaps more years. This is especially true of tupelo honey which contains about twice as much levulose as dextrose.

Wintering Bees on Buckwheat Honey

Question.—I have been cellar wintering for a number of years, with such a small winter loss that it is not worth mentioning. I have always wintered on good white honey. Do you think it practical to winter on buckwheat honey? Would I have just as good wintering success with buckwheat as light honey?—Lowell Sloat, Indiana.

Answer.—It should be possible for you to winter your bees on buckwheat honey in a bee cellar successfully. Buckwheat honey is said to be as good as clover honey for wintering bees. It is important, however, that the honey be ripened thoroughly. Of course, it would be well ripened because buckwheat honey comes, as a rule, during August and there is plenty of time between August and the time bees are put in the cellar for the honey to be ripened thoroughly. Some of the late fall honeys, such as aster and goldenrod, especially aster, are not good for cellar-wintered bees. Quite often bees do not have a chance to ripen the honey well, due to cool weather that follows a late flow.

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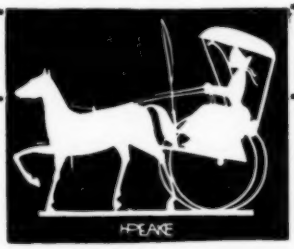
Spinster



Jane Says:

The air is filled with the droning of busy honeybees, from early morning until late at night. It continues warm and dry, an ideal time for garnering nectar, and the thrifty little workers are making the most of it, laying up for the proverbial rainy day, and, incidentally, for winter. Of course we know that, Nazi-like, we may seize the choicest stores and carry them off for ourselves, but, unlike the Nazis, we will not leave them to starve. We will substitute other food, less choice, but just as nourishing. We never feel that bees should be destroyed, and last spring we found it had been wise to keep them over.

Our big wild or maverick swarm withstood the cold wet spring, multiplied and grew, and was "Johnny on the spot" when the clover flow started. Our package bees, on the contrary, could not be obtained until later, so were not at full strength to take full advantage of this.

All our package bees have done well. All are quiet, well-behaved, not irritable, and none have shown a tendency to swarm. Of course, all queens were clipped, but so were the other queens, and clipping didn't stop them. It simply kept them from getting away, and they had plenty of swarm-impulse. One swarmed several times, alighting on near-by bush or tree, but always returning to the hive when finding their queen was not with them. Boy did everything he knew to discourage them. He gave them more room, adding a super, took away their brood, even substituted a new queen, and for a time they have been behaving, but we want none of the queens from that hive.

We are glad to have "new blood" in our bee-yard. New blood means much in any family, whether human or animal, if that family is to grow strong and flourish. We already see results in several royal lines, where it was sorely needed, and has been supplied.

We will never save queens from colonies with a too-greatly-developed swarming impulse. Like begets like, so why risk it? Cross cranky bees will continue if we rear their queens. It would only be perpetuating these evils, and we want to be well rid of them.

And what a lesson for us to learn, and teach to our children! Think of the carelessness human beings display in choosing their queens, when setting up homes of their own! Yes, and in selecting their drone-mate, as well!

Both young men and young women are often blind to the faults of their fiancees. They excuse their neglect of the mother, their bad manners, profanity, grouching. They are simply courting disaster should they marry such a one. When the newness of matrimony wears off, the same neglect, bad manners, and grouching will be exhibited in the new home, and the blind will have their eyes opened. Excusing will give place to censuring. Bickering will grow to quarrelling. Unhappiness, heartbreak, often broken homes may result, and all because a little common sense and real wisdom was lacking. A pretty face, a witty tongue, are not enough upon which to build the foundation of a happy home. They are taking, with their eyes open, as great a risk as did the shiploads of girls, sent to this country when it was simply a colony, to be married off to anyone wanting a wife.

We can do something about our bees and their queens, but we are helpless to prevent marriages going on the rocks. The only thing possible that can be done is to teach and preach, and try to instill a little common sense and wisdom into young minds. We really do have more thought for introducing new blood into our herds to improve them than for looking into the characters and lives of the men and women our daughters and sons marry.

Our honey season has been short, and we expect a short crop. Ours will soon be harvested and extracted, a little later than is usual, but a new extracting house is being erected, and soon there will be a place for all the supers cluttering up the place for so long.—Spinster Jane.

Talks to Beekeepers

M. J. Deyell, Editor.

What is the Beginner to Believe?

I have been attending bee meetings over the country during the past few months. It is interesting to note the differences of opinions held by beekeepers on matters pertaining to bees and apiary management. Some beekeepers requeen annually; others requeen every two years, and still others allow colonies to supersede or rear their own queens.

Some beekeepers in this latitude pack their bees heavily for winter; others use only light packing, while others use no packing or insulation for their hives but aim to locate apiaries when the bees are protected from the prevailing winter winds.

Some beekeepers use top hive entrances as well as bottom entrances during winter; others use only top entrances, while others use only bottom entrances. Some beekeepers winter bees in double brood-chamber or food-chamber hives, while others use single-story brood chambers for wintering.

Some beekeepers add supers on top, as needed. Others lift off filled and partly filled supers in order to place the fresh super at the bottom of the pile, then lift the partly filled and filled supers back on again.

And so I might go on. Is it any wonder the beginner beekeeper is confused as to the method of apiary management to adopt? It seems to me that apiary management as well as equipment should be standardized, as much as possible, to meet the needs in various regions of the country.

The fact remains, that, as mentioned previously in these talks, honeybees used to produce honey and wax need only three things: (1) **Food**—honey and pollen. (2) **Comb space**—hives and supers, and (3) **Protection**—against the elements. These may be called **fundamental principles.** They remain constant but the application of these principles varies as to locality. Beekeepers become confused in attempting to apply these principles to conditions that obtain in their respective localities. I hope the time may come when the entire country will be divided off into beekeeping regions, also that editors of bee journals and state and college men engaged in beekeeping extension work over the country may be able to recommend more or less standard methods of apiary management that will meet the requirements of these regions.

We Believe What We Want to Believe

Most of us are so constituted that we do not change our views easily. We have to be shown and even then we cling tenaciously to the things we know, or think we know. We believe what we want to believe.

On this matter of wintering bees some of us may have to change our views. Beginning with the October, 1940, issue of Gleanings we are to have a symposium on wintering bees, top entrances, moisture in hives, etc., by leading beekeepers and scientists over the country. So let's keep open-minded for truth as these topics are presented in future issues of this Journal.

Colonies Winter Despite Bullet Holes in Hives

During early March of 1939 I took E. R. Root out to see one of my apiaries near Medina. Mr. Root, being a very keen observer, noticed some small holes in the sides and ends of the upper brood chambers. On investigation I found that some "son of a gun" had shot holes with a rifle into 22 of my hives. In most cases each upper brood chamber had four holes, one in each side and end. In spite of these holes, (upper entrances) the colonies wintered well. However, I'm not in favor of over-doing the upper entrance idea.

Have You Ever?

A few days ago I was called on to

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A self-serve honey stand. Note the two hives atop the stand proper, the price list on the right, the money jar in middle of lower shelf, and the sign on left which reads: "Help yourself, please. Leave correct change in jar. Thank you."

give a talk at a bee meeting. The caption of this paragraph came to my mind as a topic to present. And so, I shall refer to a few "Have-you-evers" here:

(1) **Have you ever lost your hive tool?** I have, more than once. The other day I lost mine and after getting an extra one from my car I stepped on the one I had lost. It is well to have a hive tool painted red or yellow so that it may be easily found.

(2) **Have you ever left a small hole in a super of honey above a bee escape?** A few days ago I lost a perfectly good super of honey. When I called at the yard to pick up supers of honey I had escaped I found that the bees had robbed the honey out of one super because I had left a small hole made by a piece of wood adhering to the bottom of the super. Moral: Inspect carefully all supers placed above bee escapes.

(3) **Have you ever started bees to robbing by leaving the honey house door open, or a comb of honey exposed during a dearth of nectar?** I have been guilty of this, but not often. Beekeepers in town, and villages should be especially careful to avoid manipulating hives during a dearth, unless such work is absolutely necessary. It pays to keep on good terms with one's neighbors, especially those who are afraid of bees.

(4) **Have you ever arrived at an out apiary without your veil, smoker or matches?** I have. One should check over the list of requirements before leaving home.

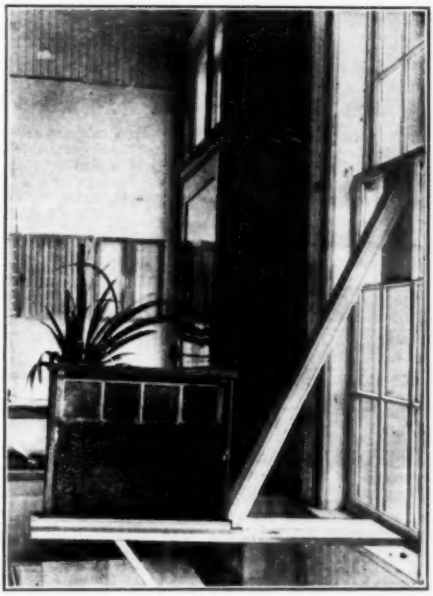
(5) **Have you ever opened a populous colony on a cool morning without having your smoker well lighted?** I had one such experience that taught me a lesson. During a buckwheat flow in Northern Michigan I opened a hive in the morning before the bees were flying well. As I pried the cover off the bees rushed out of the entrance and top and attacked me in a mass formation. Before I could get my smoker going well they crawled up my pant legs and up under my veil stinging me unmercifully. I decided a retreat was in order so I walked as fast as possible to a clump of evergreens near by and crawled on my hands and knees under the low branches. That was the only time I have ever been driven from an apiary. Since that experience I have lighted my smoker properly before opening a hive containing a strong colony.

Porter bee-escape to get bees out of a honey-house.

(6) **Have you ever failed to destroy AFB promptly?** It took me fifteen years to learn that the safest way to deal with AFB is to destroy by burning, the day it is found. Colonies should be inspected carefully for disease before going into winter. Under no consideration should a diseased colony be wintered. Such colonies usually die before spring and become a menace to clean colonies near by. If you are in doubt as to the identity of AFB send a sample containing the diseased larvae, in a wooden box about 4 inches square to the Bee Culture Laboratory, National Agricultural Research Center, Beltsville, Md., for diagnosis. Every beekeeper should have Circular No. 392 entitled, "Diagnosing Bee Disease in the Apiary", which may be secured from Superintendent of Documents, Washington, D. C., for only 5c.

(7) **Have you ever tried to winter weak colonies?** Some years ago I met a beginner beekeeper who divided a normal colony into five parts during August. All of the divisions died during the winter. Colonies should be made as strong as possible for winter. It is sometimes possible to divide very populous two-story colonies during the fruit bloom of spring and have both divisions ready for the main flow later on.

A honey sign with letters large enough to be seen by approaching motorists.



If an observation hive is to stand in a window for some time, provide a wooden chute from the entrance to the top of the window. The bees will use this chute, fly to the outside and gather pollen and nectar. They will keep fresh and prosper for weeks and months at a time.

It is during this month that a large percentage of the bees that go to make up the winter cluster are reared. It is essential that ample comb space be supplied for brood rearing. In some regions considerable surplus honey is stored from goldenrod, aster, heartsease, and Spanish needle and it is essential that supers be provided.

September a Good Month to Sell Honey

When the weather becomes cool people begin to think of hot cakes, waffles, and griddle cakes, also honey to go with them. This is one of the best months for tourists. An attractive roadside honey stand will dispose of a considerable amount of honey. Such a stand should have a good sign with the word HONEY in large letters. It is an advantage also to have an approach sign on either side of the main sign to let tourists know they are nearing the honey stand. The honey should be properly packaged and displayed to appeal to prospective customers.

The person who operates the honey stand should be well versed in the virtues of honey and should be ready to supply any information on bees.

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CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 10th of month preceding.

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NEW CROP choice clover honey, 6½c. John Bour, Tiffin, Ohio.

NEW COMB and extracted, now ready. H. G. Quirin, Bellevue, Ohio.

CHOICE white clover honey in new 60's. Noah Bordner, Holgate, Ohio.

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FANCY clover honey, case or quantity. E. J. Stahlman, Grover Hill, Ohio.

NORTHERN MICHIGAN honey in new cans. C. J. Freeman, Mesick, Mich.

FINE clover honey, case or car. Leslie A. Davis, R. R. 2, Union City, Ind.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

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CHOICE clover honey in 60's. R. C. Bish, successor to Moore Apiaries, Tiffin, Ohio.

CHOICE white clover honey. Ralph Hibbard, 131 Benedict St., Watertown, N. Y.

WHITE, and amber extracted, also white comb honey. Harry T. Gable, Romulus, N. Y.

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FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

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ORANGE, palmetto and mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

FINE white new crop clover honey—new cans, 5½c lb.; light amber, 5¼c. Edward Klein, Gurnee, Ill.

NEW CROP white clover honey. Prices on request. Sample, 10c. Frank R. Parmelee, Le Roy, N. Y.

FINEST clover honey, $7.00 per case 120 lbs. Sample, 10c. Arthur Thayer & Sons, Freeland, Michigan.

FINEST Michigan white clover honey, new crop, new cans, new cases, $7.20 per case, 120-lb. net,, any number of cases. Write for price on truckload, delivered or at our door. Sample, 10c. W. J. Manley, Sandusky, Michigan.

FOR SALE—1940 crop, white clover extracted honey in 60-lb. cans. L. S. Griggs, 711 Avon St., Flint, Mich.

MICHIGAN White Extracted in 60's. Strictly high grade in new cans. M. H. Hunt & Son, Lansing, Mich.

COMB HONEY—Oakvale Apiaries, finest northern New York white clover. Forrest Dygert, Hammond, New York.

COMB HONEY, nice and white and heavy, $1.65 doz., packed 12. Fairland Apiaries, 260 Park Dr., Dayton, Ohio.

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HONEY FOR SALE—All kinds, any quantity. H & S Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

FANCY white clover extracted honey, can or carload. Price on request. Sample 15c. Jos. H. Hoehn & Sons, Ottoville, Ohio.

WHITE CLOVER COMB, $3.00 case; amber, $2.50; clover extracted, 7c; amber, 6c; buckwheat, 5c. C. B. Howard, Geneva, N. Y.

LET US show you how you can save on your honey purchases. We also buy honey. H. Blitz, P. O. Box 3452, Philadelphia, Pa.

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NEW CROP clover-basswood honey, water white in new cans. Send for sample and price. A. A. French & Son, Theresa, N. Y.

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COMPLETE line comb and bottled honey, pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

SELECT LOTS white sweet clover, also processed white honey in 60-pound tins. A. I. Root Co., 224 West Huron Street, Chicago, Ill.

CHOICE white sweet clover, also extra light amber honey in new 60-pound tins by the case or carload. Dadant & Sons, Hamilton, Illinois.

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FANCY white clover extracted honey, case or carload. Write for prices and sample. Leroy C. Keet, 1003 Leray Street, Watertown, N. Y.

NEW WHITE COMB—No. 1 per case, $3.00; Fancy, $3.50; extracted, 6c in new cans, white heavy body and fine flavor. F. J. Smith, Castalia, Ohio.

NO. 1 to fancy light comb honey, $2.75 per case; No. 2 and amber, $2.25; in window cartons, 25c extra. Extracted, 6c in 60's. H. R. Shelton, Parma, Mich.

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NEW CLOVER white comb fancy, 14 to 16 oz. Extra nice, $3.50 case of 24 in shipping cases. Guaranteed to arrive in good condition by freight. Clarence Engle, Kearneysville, W. Va.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

RASPBERRY HONEY blended with milkweed honey, two of the best honeys of Northern Michigan. Packed in 60-lb. cans, for 8c a lb. In 10-lb. cans for $2.00. We pay postage. Sample for 20c. Elmer Hutchinson & Son, Lake City, Michigan.

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WHITE and light amber extracted and comb honey. George Eykamp, 1221 Akin, Evansville, Indiana.

WHITE and amber honey in new 60's, and wax or cappings in any form. Alexander Co., Rt. 3, Toledo, O.

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CASH PAID for carloads and less of white extracted honey. Send sample and lowest price. F. M. Babcock, Fredonia, N. Y.

WANTED—Carlots honey; state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount. Central Ohio Apiaries, Millersport, Ohio.

HIGHEST cash returns made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Ky.

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WANTED—White and amber extracted Honey, any quantity, also Beeswax. Write The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Apiaries, 12243 12th St., Detroit, Michigan.

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CARTONS for cut Comb Honey. New attractive designs with your name and address. Low prices. Fast service. Samples on request. May Carton Co., Box 257, Traverse City, Michigan.

FOR SALE—Fine quality queen mailing cages; Root quality bee supplies, both and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

SAVE MONEY by letting us work your wax into wired or regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices, as we have no agents. Walter Kelley Co., Paducah, Kentucky.

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ITALIAN QUEENS, three-banded, 50c each. Robert B. Spicer, Wharton, N. J.

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GOLDEN QUEENS, excellent quality. Hardy, gentle, productive, health certificate. Satisfaction guaranteed. Untested, 50c, tested, $1.00. O. E. Brown, Route 1, Asheboro, North Carolina.

REQUEEN every hive every year for better wintering, for bigger crops, for greater profits. Untested queens, 50c each; 25-100, 45c each; 100 up, 40c each. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

CHOICE BRIGHT Italian queens that are a pleasure to work with. The stock has been bred and selected in the North the past 36 years. For good winterers, hustlers, and gentleness. Price 75c each and $8.00 a doz. Emil W. Gutekunst, Colden, N. Y.

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DAIRY GOAT JOURNAL, Dept. 419, Fairbury, Nebr. (big monthly magazine, 3 years $1), gives complete information. Introductory 5 months, 10c.

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We thank our many customers for a nice business and for patience when we were sometimes unavoidably late. Owing to bad weather it has been a hectic season.

We still offer queens at 50c for 1-11, 45c for 12-23, 40c for 24-49 and 35c for 50-up. Cash with order, safe arrival guaranteed.

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[Even $1.00 will help]

Send remittance to

American Honey Institute

Madison, Wisconsin

N. E. MILLER, PIONEER BEEKEEPER

(Continued from page 549)

cit to the mortgage company and finally paid out.

Mr. Miller was active in church and civic life. He raised a large and happy family and made every effort to give them chances for a start in business that pioneer days in Utah had never given him. His great success in the industry was probably attributable more than anything else to the fact that he loved beekeeping for its own sake and for the happiness that it can give.

Santa Monica, California.

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THE BEE OF MYSTERY

(Continued from page 553)

more than an egg-machine. It is she, not the worker, that is the bee of mystery. We do not yet know how, in the space of a few hours, the nurse bees determine her fate and bring about in her the many losses and fewer—but in themselves great—gains that distinguish her alike from the modern worker and the original female bee.

Horsham, England.

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The Leading Bee Journal of the Southern Hemisphere is the
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GARON BEE COMPANY **Donaldsonville, La.**

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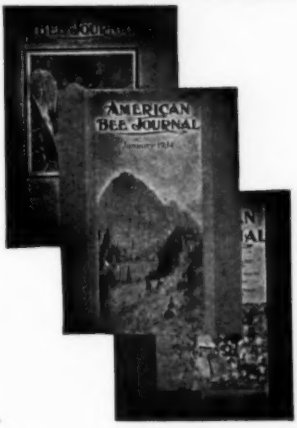

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50c each
World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.
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"She-suits-me" queens, 3-banded Italians, most excellent strain: One queen, 75c, 3 queens, $2.00. Stamps accepted for single queen.
Koolairy veil, $1.50 postpaid, SAFIN queen cage, $1, for ten; 15c for one.
ALLEN LATHAM
Norwichtown, Conn.

WISCONSIN MEETING

(Continued from page 569)

not be able to use our honey, it is apparent that we may have to dispose of a possible bumper crop of honey entirely within the United States. If there ever was a time when the American Honey Institute should receive support, it is now. Honey will have to find new avenues among the manufacturers, which means that it will have to be more abundantly displayed and advertised more intensively than ever. The American Honey Institute is the medium through which this can be done.

Mr. E. L. Chambers, in charge of bee inspection work in Wisconsin and his assistant, Mr. J. F. Long, explained what is being done within their state in connection with the eradication of foulbrood. Through the process of burning all infected material, the danger of recurrence is growing less and less. However, there will never come a time when that disease will be entirely eliminated, because careless beekeepers will always be present.

Pictures here shown are only those which the writer was able to obtain that were sharp enough to publish.

Mountain Gray
QUEENS
With your faith in our queens and confidence in us we have had record sales this year. We are running 3 large mating yards. Order while you can get fresh young queens direct from our yards, 50 cts. each.
15% to dealers. Safe delivery guaranteed.
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121 N. Alabama St.

FAIR-EST EXHIBIT

(Continued from page 564)

character and showmanship, yet at the Western Washington Fair which comes to brighten the latter part of September,—that "season of mists and mellow fruitfulness", according to Johnny Keats in his "Ode to Autumn", honey is the hit of the exhibition,—the show **par excellence** for fair-goers and honey enthusiasts—(And aren't we all?)

It's like paraphrasing an old refrain:

"Mirror, mirror on the wall,
Which's the fairest Honey of all?"

So it's a tough job for the judges with their blue ribbons to bestow on prize honey displays and cash awards to the honeymen and honeywomen. Wonders of wonders are the honey showings and all the "pretties" set forth for marking inventiveness, diversification, and resourcefulness of the honey producers,—down to fantastic shapes and sculptures in beeswax—little statues and figurines that capture popular fancy.

The famous fair of the Western Washington area that has attracted national attention with its fireweed honey and many hives on logged-off lands, and pasturages of wild-flowers, where poultry and honeybees combine to further farming and offer livelihoods, comprises a number of counties in which honey production is on "the up and up".

Honey that is pedestaled in various ways—in honey candies and honey cakes, or in pure, unadulterated form, in glass containers through which the clear amber fluid shines radiantly—vies with the noblest exhibits of the show, and is a drawing card or magnet for many a fair-goer,—a real incentive to visit the grand Fall Festival.

Maximum "consumer appeal", moreover, is seen in the dramatic handling of honey and the build-up of interest through centering attention on appearance and presentation,—in originality of display as well as packaging,—all points for prizes and premiums. Honeymen are taught how to get the maximum from honey—how to present and parade it, package and prize it,—and are given premiums for their efforts and their grand success.

Seattle, Wash.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers,—10% to 40% ahead of Italians. Foundation stock from mountainous region of Terek, Caucasus.

CARNIOLANS

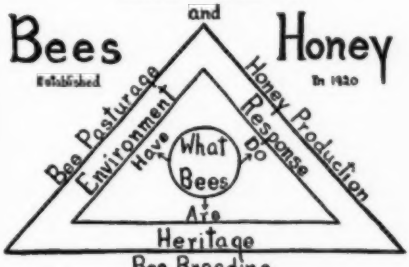
Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolans were used in the recent Iowa Experiment Station test showing Carniolans best for Northern and Western conditions. Have supplied many other Agricultural Colleges and Experiment Stations with them. 33d year with them. Replace old and failing queens during Sept. This is much better than putting in new queens from the South next Spring. Ask for free paper.

Prices: Untested queens, 1 to 5, 60c each; 6 or more, 50c each. Tested, $1.00 each.

By air mail, 5c extra for each queen.

ALBERT G. HANN
Glen Gardner, New Jersey

FRONTIER



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Sample Copy Free
RALPH BENTON, Editor
Rivera, California

XUM

JUST NEWS

(Continued from page 581)

first transcontinental railroad in 1869. A similar celebration was held this year, May 15, 16, 17 and 18. Featured was the "Surprise Party's National Convention", which announced the candidacy of Gracie Allen, film and radio star, for president. "Winter Quarters", the heroic monument by Avard Fairbanks in Omaha's Mormon Cemetery, commemorates one of the most remarkable chapters in pioneer history—the fifteen hundred mile trek across the plains between 1864 and 1869. Fontenelle Forest, near Omaha, is the largest unbroken tract of native forest in Nebraska.

Omaha is on one of the four coast-to-coast airlines, and has direct connections with the others. It is the fourth railroad center of the U. S. hub of ten trunk lines. The popular saying among convention guests is: "Omaha is easy to reach—but hard to leave!" Omaha cordially invites the American Honey Institute and American Honey Producers' League. —Omaha Chamber of Commerce Publicity Department.

• • •

The Alabama Beekeepers' Association fall meeting will occur in Birmingham, October 2, 1940. A very attractive program is being arranged, out-of-state speakers being Dr. C. F. Farrar, who conducts research in bee culture at the Federal Bee Laboratories, Madison, Wisconsin; Dr. Warren Whitcomb, Jr., of the Federal Bee Laboratory in Louisiana, and Mr. M. G. Dadant, publisher of the American Bee Journal. A number of speakers of Alabama will also appear on the program.

OLD COMBS AND CAPPINGS
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Lowest Rendering Charges
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Best Market Price Paid For Beeswax
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THE FRED W. MUTH CO.
229 Walnut Street Cincinnati, O.

EDITORIALS

(Continued from page 567)

auger holes in both brood chambers during summer, as well as full seven-eighths inch bottom entrances. For winter, the lower auger hole is closed and the lower entrance contracted and covered with coarse mesh wire cloth to keep out mice. The bees use the auger hole most freely but the restricted lower entrance allows the removal of dead bees and prevents molding of combs. The bee-escape hole in the inner cover is left open summer and winter. The open-escape hole in the summer allows the bees to prevent ants from colonizing under the covers. The Government men insulate their covers with 14 to 16 thicknesses of newspaper before the metal is nailed to the telescopic covers.

(4) While Mr. Hambleton and his workers do not under-rate the value of moderate packing, they do feel that too much emphasis has been placed on hive insulation and not enough on conditions within the hive. In addition to an ample reserve of pollen as stated in No. 1 and 2, there must be a good queen with a large force of young bees and ample stores, all of which requires a double-story hive. A good windbreak is desirable but no less so then a location giving the hives full exposure to sunlight.

A large cluster of bees provides the colony's only efficient insulation. Wrapping the hives with roofing paper or slater's felt provides wind protection and probably allows the hive to absorb more heat from the sun's rays which permits the cluster to readjust its position. Wind protection and hive insulation slows up the rate of temperature change within the hive, allowing the cluster more time to adjust itself to temperature conditions, but it does not prevent low temperatures from penetrating the portion of the hive unoccupied by the cluster. There is no question that a moderate amount of hive insulation saves some stores, but they ask, does the saving in honey offset the cost of packing?

Again, packing, if used, should not be so heavy as to make it impossible for the sun's rays, during occasional bright days in mid-winter, to penetrate to the cluster so that it can adjust its position.

It should be made clear that Dr. Farrar has been collecting data on all these points in Kansas, Massachu-

(Continued on next page)

EDITORIALS

(Continued from page 596)

setts, Wyoming, and lastly in Wisconsin.

(5) Uncle Sam has been testing numerous strains of honeybees for their production efficiency and supersedure or queen losses. Dr. Farrar, without giving us the names of breeders, showed how some strains greatly excel others in honey production because of their more efficient brood production, giving populous colonies. He pointed out a definite relation exists between the quality of stock and supersedure. Stock which produces a large amount of brood of good quality not only excels in production but has the fewest queen losses. They have observed great differences in the size and body conformation of queens representing the lines of stock under test. While it is unlikely that "proper" type and size will always insure a good queen, there is evidence that poor queens or even lines of stock can be discarded on the basis of their physical characteristics. In the selection and breeding of bees which will meet present needs, attention should be given to all, not just one of the following characteristics: productive vigor and uniformity, resistance to disease, longevity, temperament, and other desirable behavior characteristics, size, and color. Stock improvement represents one of the most fertile fields for progress in beekeeping today.

TOO LATE TO CLASSIFY

HARRIS'—Fancy clover extracted, new crop, in new sixties. Case or carload. J. N. Harris, Saint Louis, Mich.

FINE QUALITY new clover honey in new cans. Case or quantity. Scott's Honey Farm, La Grange, Ind.

FOR SALE: Light amber and amber clover extracted. Clover and buckwheat comb, also buckwheat extracted. Carlton D. Howard, Ovid, N. Y.

STOLLER'S excellent quality clover. Honey packed in 60's. Finest obtainable, ready for shipment. Write Stoller Honey Farm, Latty, Ohio.

EXTRA YELLOW Italian queens, that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested 50c each; tested $1.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Route 2.

FOR SALE—We are constantly accumulating bee supplies slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

York's Package Bees and Queens

Quality Bred Italians More for Your Money

Queens, 50 cents each; ten up, 40 cents each. Two-pound packages with queens, $1.60 each; ten up, $1.50 each; three-pound packages with queens, $2.10 each; ten up, $2.00 each. Prompt shipment.

Book orders now for shipping dates wanted. Full weights, safe arrival and satisfaction guaranteed.

York Bee Company
Jesup, Georgia, U. S. A.
(The Universal Apiaries)

Requeen Now

In many sections of the country September is one of the most favorable months for requeening. Don't winter your bees with an old worn-out Queen—replace her with a young Stover Queen.

Three-banded Italians
Caucasians

—Prices—

1 to 24	$ .50 each
25 to 99	.45 each
100 or more	.40 each

Clipped or by air mail at no extra cost.

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MAYHEW, MISSISSIPPI

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Our Imported Strain of Italian Bees has again demonstrated their superior wintering and honey producing qualities.

Requeen now with our select young queens to insure better results next year. Prices 1-10, 50c each; 11-25, 45c each; 26-up, 40c each.

Rossman & Long

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Italian
Carniolan
Caucasian
QUEENS

Reared in separate apiaries.

50c each

Ronald Kirk, Rockton, Pa.

DRIED FRUITS IN REVIEW

(Continued from page 558)

spoon flour, 1 tablespoon butter, and pastry for double crust, 9" deep type.

Combine juices, water, honey, salt and grated orange rind and heat to boiling. Moisten cornstarch in a little cold water and add to hot mixture. Rinse raisins and stir into hot mixture. Line a deep pie pan with pastry, sprinkle flour over bottom, add filling and dot with butter; cover with top crust. Bake in hot oven, 450 degrees F., 25 to 30 minutes. Pie should be nearly cool when cut. If it is allowed to cool, it should be heated slightly before serving. Serves 6 to 8.

Dried Apricot-Honey Conserve

"The acme of simplicity in conserves. The concentration of dried apricots permits their uncooked use with mere application of sterilizing heat."

One and ½ cups dried apricots, 2 cups honey and ¾ cup chopped walnut meats.

Rinse apricots in hot water, drain and put through food chopper, using a fine knife. Bring honey to boiling point, remove from heat, add apricots and nuts, and stir to blend. Pour into sterilized glasses; seal with paraffin. Let stand 4 or 5 days before using. Makes approximately 2 pints.

Aurora, Nebr.

CARNIOLAN QUEENS

Requeen with Carniolans and save on winter stores. Carniolans build up rapidly in the spring and are the most excellent workers. Jan Strgar Strain.
Untested Queens, 50c each; Ten or more, 45c each, postpaid.
For air mail, add 5c per queen.

EPHARDT'S HONEY FARMS, TORRAS, LOUISIANA.

←Morrison's Northern→

Three-banded or Leather-Colored Italians. Our foundation stock comes direct

→ From Northern Italy ←

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Untested.....50c. Tested.....$1.00. Breeders.....$5.00

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THE NEW
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Now light in weight—
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Available in ½ lb., 1 lb.
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HONEY JARS

In designing jars especially for honey packers Hazel-Atlas stresses light weight crystal clear glass which displays the beauty of your product—and from a practical side, jars that are easily packed and labeled.

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Available in 5 oz. to 4 lb.

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Plan Now for 1941 Crop

Hardy

Prolific

Gentle

Fine Honey Gatherers

Fall requeening is an important step. Strong colony of young bees winters better. Bees start the new season in better condition.

ORDER ROOT QUEENS

Only 70 cents each in lots of 10

The A. I. Root Company, Medina, Ohio

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